

ICT Peer Coaches: Techno-Pedagogues of the Twenty-first Century

A thesis submitted in fulfilment of the requirements for the degree

PhD by Project

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Master of Business in Information Technology**

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Design and Social Context Portfolio
RMIT University
March 2010**

Dedication

I would like to thank the ICT Peer Coaches, the learners and the principals for their willingness to be part of the study and giving so generously of their time.

I would like to acknowledge the support and invaluable advice of my supervisor, Associate Professor Heather Fehring throughout this study.

Finally, my special heartfelt thanks to my father, John, and my sister, Teresa, for their constant love and support.

Abstract

ICT Peer Coaches: Techno-Pedagogues of the Twenty-first Century

This PhD by project investigates the ICT peer coaching programmes in place in three government schools in Victoria, Australia. The increasing use of Information and Communication Technologies (ICT) in schools has presented educators with many new challenges as they seek to maximise the potential afforded by ICT to improve student learning and get the best return on investment.

Teacher professional learning is essential in supporting teachers to improve their practice and support a culture of continuous improvement across the school. The literature review highlighted that past methods of professional learning such as one-off workshops and off-site events are less effective to enable teachers to develop both ICT skills and pedagogical knowledge needed for 21st century teaching and learning. While peer coaching is increasingly offered as a professional learning strategy in schools, very little is available which focuses on peer coaching in an ICT context and whether it effectively supports teachers to integrate ICT into their classroom practice.

This research examines whether ICT peer coaching as a professional learning strategy supports teachers' integration of ICT into their learning and teaching programme. It uses a constructivist (naturalistic) inquiry methodology and a collective case study approach. Data was collected through semi-structured interviews, observations and an analysis of artefacts such as school strategic plans and policies.

A number of key findings emerged through the study and included an additional stage to the three-stage ICT coaching cycle often found in the literature and the need for documentation by the learners, such as the development of a portfolio, to support deeper reflection on their practice. The study also identified the need for greater cohesion between the ICT peer coaching programmes and the culture, strategic planning and reform agenda in place at the school in order to align the programme to the school's strategic goals.

The product is the *teacher2teacher: ICT Peer Coaching* wiki. Its purpose is to provide principals and teachers with a practical resource which provides information on ICT peer

coaching and a model which would support them in establishing such a programme in their school. Templates are included and users of the wiki are invited to contribute to the resources in the spirit of online collaboration.

Declaration

I certify that the work in this study was carried out by myself except where due acknowledgement has been made. The work has not been submitted previously, in whole or part, to qualify for any other academic award. The content of this project is the result of work that has been carried out since the official commencement date of the approved research programme.

A handwritten signature in blue ink, appearing to read 'Ruth Ellis', is positioned above the signature line.

Signed.....Date: March 30, 2010

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Chapter 1

Introduction

1.1 Context

Technology has changed the way we communicate, socialise and work in ways that would have been unimaginable twenty, or even ten, years ago. “Children today have not experienced a world without a computer, handheld device or ATM machine, and very little in the daily lives of children and adults does not involve computing” (Robertson, Webb & Fluck, 2007, p. xiv). Having grown up with technology, today’s children are what Prensky (2001) has called the “digital natives”, while “digital immigrants” are those who have had to adapt to this new environment. Teachers who fall into this latter category are digital immigrants standing on shifting sands as new technologies appear regularly on the classroom horizon. To reflect on the rapid changes in the technology which have changed the way we communicate, socialise and work in one generation is to recognise the enormous challenges faced by many teachers as they strive to integrate Information and Communication Technologies (ICT) into their learning and teaching programmes.

Ongoing professional learning is essential for teachers to enable them to keep abreast of new and emerging technologies. Professional learning also needs to address the changes in pedagogical practices needed to support the integration of ICT into the classroom in such a way that it impacts positively on student learning.

1.2 Research Questions

This study examines the key question: “Does peer coaching as a professional learning strategy support teachers’ integration of Information and Communication Technology (ICT) into their learning and teaching programmes?” The sub-questions are:

- What are the key elements of an ICT peer coaching programme?
 - What is the main focus of the peer coaching partnership?
 - What are the essential characteristics required for a successful peer coach/learner relationship?

- What classroom scheduling is required for a successful peer coaching programme?
- Do peer coaches make a difference to teachers' growth in ICT skills and pedagogy?
- How could ICT peer coaching support other initiatives or reforms at the whole school level, and in particular, the school's Performance and Development Culture accreditation process?
- What is the role of the school principal in supporting ICT peer coaching to maximise benefits?
- Is there a role for the system in supporting ICT peer coaching to build teacher capacity?

Three schools, two primary and one secondary, participated in the study. A combination of interviews with principals, ICT peer coaches and learners, observations and artefacts such as key school documents, enabled a close examination of the ICT peer coaching programmes in place within these schools from which understandings about the potential of ICT peer coaching as a professional learning strategy could be garnered.

1.3 Rationale

There is much in the literature which highlights the elements of effective professional learning. Sparks and Loucks-Horsley (1989) describe the characteristics of effective professional learning practice as including programmes that are conducted in school settings, and linked to key school goals, where the teachers are active in identifying goals for their own learning and where support and feedback are ongoing. Maldonado (2002) identifies the key characteristics of professional learning as being inquiry based, collaborative and including the establishment of learning communities. The value of collaboration as an important contributing factor to teacher professional growth is also highlighted by Slater (2004), Sugar (2005) and Seed (2005). The Department of Education & Training, Victoria (2005) and Centre for Educational Research Innovation (as cited in Department of Education, Science and Training, Australia, 2001) identify the connection between the learning and teacher practice, and professional learning that it is reflective and ongoing as other essential elements of effective professional learning. However, the inclusion of ICT into the learning and teaching mix brings challenges and complexities which demand new understandings and strategies in order to teach

effectively and integrate ICT into classroom practice. Research into the use of ICT peer coaching as one strategy to support teachers in transforming classroom practice is important.

The release of the *Melbourne Declaration on Educational Goals for Young Australians* in 2008 (Ministerial Council on Education, Employment, Training and Youth Affairs MCEETYA, 2008) provides an imperative for state education systems in Australia. It sets the direction for education in Australia for the next ten years and identifies as one of its goals that “all young Australians become successful learners, confident and creative individuals, and active and informed citizens” (p. 8). It includes as an indicator of “successful learners” that they will “have the essential skills in literacy and numeracy and are creative and productive users of technology, especially ICT as a foundation for success in all learning areas” (MCEETYA, 2008, p. 8). In order to achieve this, teachers need to be confident users of the technology and able to use it in their classroom programmes in ways that exploit its potential to maximise student learning.

This research is also timely in that it also explores the impact of ICT peer coaching on key systemic initiatives in place in government school education in Victoria, Australia, introduced initially as part of the reform agenda outlined in the first *Blueprint for Government Schools: Future Directions for Education in the Victorian Government Schools System* (Department of Education & Training, Victoria, 2003a). Performance and Development Culture, a key reform element introduced to Victorian education in 2003, is of particular relevance to this study as its use of feedback to support teacher professional learning fits well with an ICT peer coaching programme.

1.4 Structure of the PhD (Project)

This study sought to understand how ICT peer coaching can support teachers in developing ICT skills and pedagogy needed to effectively integrate ICT into their teaching and learning programme. In examining the ICT peer coaching programmes at three schools, the interactions between the peer coaches and their learners, an understanding of the skills required by ICT peer coaches and the ways in which principals support ICT peer coaching emerged. But what also emerged are the gaps in the processes, areas where further support or action are needed to strengthen the quality and impact of the programme on teacher professional learning.

Chapter 2 presents a review of the literature in two sections. First, it presents background on the Victoria education scenario with particular focus on the use of ICT and the reform agenda introduced in the first *Blueprint for Government Schools* (Department of Education & Training, Victoria, 2003a). Secondly, it provides findings from the literature on changes to teacher professional learning, from traditional “one-off”, workshop type events through to ongoing, school-based and collaborative approaches. It presents the differences between coaching and mentoring, and presents peer coaching as a professional learning strategy as found in the literature.

In order to understand the ICT peer coaching models as a professional learning strategy used in the three schools, a qualitative, constructivist approach was taken for this study and this is discussed in Chapter 3. Data was collected through interviews, observations and artefacts in order to provide a rich, multi-layered picture of the ICT peer coaching programmes in place.

Chapter 4 presents the data and analysis from the case studies collected through interviews, observations and artefacts. The data is examined within the context of the schools’ strategic planning, professional learning approaches and ICT infrastructures. This allows an understanding of the potential enablers and barriers to the implementation of future such programmes.

Finally, in Chapter 5, conclusions and recommendations are presented based on findings from the three ICT peer coaching programmes examined. Strategies are identified which build on these programmes, providing possible solutions and contributing to a more robust and effective ICT peer coaching model.

This study is a PhD (Project) and the findings from the study were used to develop a resource, the *teacher2teacher: Peer Coaching for ICT* wiki (<http://teacher2teacher-peercoaching-for-ict.wikispaces.com/>). Its intended audience is educators interested in establishing a school-based ICT peer coaching programme. It could also be used to inform programmes at a network, district or system level. It places ICT peer coaching in a whole school context and aligns with the school’s strategic goals.

The model of ICT peer coaching presented in the *teacher2teacher* wiki is a cyclic model comprised of a pre-observation conference, observation session and a post-observation conference, with an optional ICT skills/practice session where required. This cycle approach is underpinned by an overarching goal identified through the learner's ICT Peer Coaching Plan. The *teacher2teacher* wiki includes templates and suggested processes to support school leaders and ICT peer coaches to plan, implement and evaluate the programme; it also supports learners to take an active role to maximise the potential for growth in their understanding of ICT integration in their learning and teaching practice.

A wiki “allows readers to collaborate with others in writing it and adding, editing, and changing the Web page’s contents at any time. Its ease of use makes a wiki an effective tool for collaborative authoring” (Solomon & Schrum, 2007, pp. 57–58). In making the resource available to users through a wiki, all users have the opportunity to be part of a community of practice, sharing their ICT peer coaching experiences, seeking advice from others, as well as adding to the content for others to use. The collaborative, collegial nature of the online tool is itself a key element which sits at the heart of peer coaching. In presenting content using technology and encouraging users to contribute, it also demonstrates the collaborative, participatory elements that are central to ICT peer coaching.

Chapter 2

Literature Review

2.1 Introduction

This chapter presents a review of the literature and examines the place of Information and Communication Technologies (ICT) in education and the investment that education systems around the world have made towards the integration of ICT in schools. An examination of key documents which underpinned the Victorian education reform agenda in place during 2007 and role of ICT within this are then presented. Finally, teacher professional learning and peer coaching are examined, with peer coaching presented as one strategy to support teachers in developing ICT skills and pedagogical change in their learning and teaching practice.

The key research question is “does peer coaching as a professional learning strategy support teachers’ integration of Information and Communication Technology (ICT) into their learning and teaching programmes?” The sub-questions are:

- What are the key elements of an ICT peer coaching programme?
 - What is the main focus of the peer coaching partnership?
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- Do peer coaches make a difference to teachers’ growth in ICT skills and pedagogy?
- How could ICT peer coaching support other initiatives or reforms at the whole school level, and in particular, the school’s Performance and Development Culture accreditation process?
- What is the role of the school principal in supporting ICT peer coaching to maximise benefits?
- Is there a role for the system in supporting ICT peer coaching to build teacher capacity?

2.2 ICT in Education

A look at the evolving role of ICT in education is important background which helps in developing an understanding of the professional learning needs of teachers in school environments and the possible role of ICT peer coaching.

Establishing and maintaining teacher and student access to high quality infrastructure, hardware and software is a major investment for the education sector in many parts of the world. As early as 1999, a survey conducted by the National Center for Education Statistics found that “99 percent of fulltime regular public school teachers reported they had access to computers or the Internet somewhere in their schools” (Rowand, 2000, para.1). In the United States of America (USA), the CEO Forum reported in 2001 that the USA had invested \$US37.8 billion in education technology over the previous 10 years (CEO Forum, 2001). In 2003, the US Department of Education stated that the students to computers ratio in all public schools was 4.4 : 1 (US Department of Education, 2003).

The *Times Educational Supplement* in the United Kingdom reported that while the spending on books in primary and secondary schools was around £150m, “£426.3m had been spent on ICT resources, not including computers” (as cited in BBC News, 2005). When elected in 1997, the British Labour government committed £1.6 billion pounds to support ICT in education for 1998 – 2002, with a further £1.35 billion to go towards initiatives such as establishing Centres of Excellence for IT and support for ICT professional learning (Twining, 2002). Twining’s research also indicated a students to computers ratio of approximately 10 : 1 in the United Kingdom, though the figure was slightly lower for secondary school students. A statistical report on ICT infrastructure in schools in Ireland found that the average ICT expenditure for primary schools was €2,129 and €11,583 for post-primary schools. It also found that the students to computers ratio in primary schools was 9 : 1 and 7 : 0 in secondary schools (Shiel & O’Flaherty, 2006).

The Australian scenario also reflects major investment in technology and technology supported learning in schools. Indicators identified by the Organisation for Economic Co-operation and Development (OECD) showed the average student to computer ratio to be approximately three students for every one computer while the OECD average was 6 : 1 (Organisation for Economic Co-operation and Development, 2006). This ratio is likely to

fall with the Australian federal government's release of the *Digital Education Revolution* strategy in 2008 which committed \$1.2 billion over five years for initiatives such as funding computer access for every student in Years 9–12 and assistance to schools to support their use, broadband connections to schools and the development of online curriculum tools and resources (Department of Education, Employment and Workplace Relations, Australia, 2008a). The *Australian Government Quality Teacher Programme* was a multi-million dollar programme which had been in place since 2000 to support teachers in developing and extending their knowledge and skills (Department of Education, Science and Training, Australia, n.d.). Under the *Digital Education Revolution, Australian Government Quality Teacher Programme*, funding to states and territories for 2009 was to be directed to ICT-related school-based professional development for teachers (Department of Education, Employment and Workplace Relations, Australia, 2008b). While further details were not available at the time of writing, the re-focusing of this funding signalled an acknowledgement by the federal government of the importance of teacher professional learning related to ICT to support the increased access to technology by students in schools.

Yet despite access to the technology, technology planning requirements at the state or district level and teacher professional development that has taken place over the years, teacher confidence in using the technology in their classroom programmes varies. A US survey of technology decision makers in schools on Internet use completed in February 2002 found that “many teachers are still unprepared to integrate technology into their instruction” (National School Board Foundation, 2002, para. 4). Ertmer (2005) reported on somewhat improved findings from a 2003 US Department of Education study which found 85 per cent of teachers feeling “somewhat well-prepared to use technology in the classroom” (p. 25), though the description of “somewhat well-prepared” is vague and open to interpretation. An independent study in the USA conducted in 2004 and commissioned by CDW Government found eight out of ten respondents indicated they needed additional training in the use of computers (CDW-Government, 2005). Nash (1994), Caverly, Peterson and Mandeville (1997), Anderson and Becker (2001), Newhouse (2001), and Hinson, Laprairie and Cundiff (2005) also highlight the minimal impact computer training has had in developing teacher confidence and skills to support the integration of technology and improvement in student learning. Kozma (2003), in reporting on Module 1 of a global study by the International Association for the

Evaluation of Educational Achievement, found that after lack of access to equipment, “the second most often mentioned problem was teachers’ insufficient knowledge and skills regarding ICT” (p. 7). Hasselbring et al. (2000) capture the essence of this problem when they state “in sum, a school can have the best hardware and software available yet it is unlikely that they will be used well, or even used at all, if teachers are not trained” (p. 5).

Doherty and Orlofsky (2001) highlight data from the 2000 Market Data retrieval survey carried out in US schools which indicates how the lack of teacher ICT skills may be impacting on students. The data indicated that “schools may not be taking the lead in making sure that students have the technological skills and abilities they need for the future” (p. 49) with only 40 per cent of students believing that their knowledge of computers was linked to successful school performance.

Coutts, Drinkwater and Simpson (2001) examining the ICT strategies introduced to schools in the United Kingdom to transform education practice state that: “Much current use of ICT in classrooms can be classified as being casual or, at best, instrumental, and applied solely to deliver the existing curriculum within traditional models of teaching and learning” (p. 227). Findings from the National Centre for Technology in Education 2005 Census in Ireland highlighted the call for additional ICT professional development for teachers and the need to develop teachers’ confidence in using ICT (Shiel & O’Flaherty, 2006). Australian findings on teacher ICT skills levels reflect a poor picture with Galatis and Williams (2009) reporting that “only 27% of teachers use ICT effectively” (p. 8). Such findings indicate that the call for effective ICT professional learning has been made over a number of years, but to what effect? The following section examines teacher professional learning and ICT.

2.3 Teacher Professional Learning

Perhaps Hargreaves (1995) explains the need for teacher professional learning best when he says: “What we want for our children, we should also want for their teachers – that schools be places of learning for both of them and that such learning be suffused with excitement, engagement, passion, challenge, creativity, and joy” (pp. 27–28). Effective professional learning is about content and pedagogy, but must also be about how teaching practice impacts on student learning (Elmore, 2002). This view is reinforced by

researchers such as Wenglinsky (2000) and Hattie (2003) who have identified that teachers are the most important variant on the level of student learning.

Much teacher professional learning in the past has been of the “one-off” type – workshops, conferences, seminars and hands-on training – which may or may not be directly related to school goals and priorities and with little follow-up to support putting the learning into practice (Lieberman, 1995; Garet, Porter, Desimone, Birman & Yoon, 2001; McQueen, 2001; Calnin, 2006). Curriculum programmes and initiatives introduced at the system, region or district level and also professional learning programmes offered by commercial companies to support the use of their products in schools – reading schemes, maths programmes, assessment packages and so on – have meant that schools have had a wide range of programmes from which to choose.

With professional learning such as this to attend, teachers can be informed, enthused, can network and possibly develop new skills and understandings – but with little expectation or accountability to transfer professional learning into improved student learning.

Without support at the school level, teachers lack time to systematically try new strategies as part of the school day and break down teacher isolation in the classroom, limiting their impact. Professional learning “events” lack transferability of learning to the classroom and make little contribution to school transformation (Costa & Garmston, 2002; Allen & LeBlanc, 2005). Furthermore, this type of professional learning usually takes place away from the school, but successful professional learning, as Elmore (2002) states, “is likely to occur in schools and classroom settings, rather than off-site, and it is likely to involve work with individual teachers or small groups around the observation of actual teaching” (p. 8). The one-off workshops and seminars also do not reflect the principles of adult learning, such as recognition of past experience, the need for learning to be self-directed, collaborative, active not passive and for the learning to have a real purpose (Zemke & Zemke, 1984; Brookfield, 1986; Knowles, Holton & Swanson, 2005; Sandholtz & Scribner, 2006).

There is a need for changes to professional learning to move it away from stand-alone, isolated events. The development of a professional learning culture is needed so that professional learning becomes closely linked to teachers’ classroom practice, requires teachers to observe colleagues in the classroom and to research and reflect upon their

practice (Wiske, 2000; Ingvarson, 2003; Neufeld & Roper, 2003; Darling-Hammond, 2005).

Teacher professional learning is also identified as an essential element of school reform to improve student learning (Loucks-Horsely, 1997; Hawley & Valli, 1995; US Department of Education, 2000; Hargreaves, 2003; Cole, 2005; Department of Education & Training, Victoria, 2005; Calnin, 2006; Fullan, Hill & Crevola, 2006). Effective ICT professional learning requires strategies that reflect “the broader issues of school reform (professional development embedded in teacher daily work), teachers’ sense of professionalism (teachers as learner/researchers connected to a community, ongoing, based in daily work, connected to student outcomes) and a clear focus on student learning outcomes” (Department of Education, Science and Training, Australia, 2001, p. 28).

An environment that reflects the elements of professional learning identified above sets the scene for continuous improvement across the whole school and can “help create the conditions of work and cultures of collaboration in which teachers can develop, clarify, review, reflect on, and redefine their purposes, missions, and visions together” (Hargreaves, 1995, p.16). This is echoed by Slater (2004) who writes “the basic tenet within the reform of teacher professionalism is the belief that teachers themselves will have the greatest responsibility for the improvement of practice” (From Isolation to Collaboration section, para. 3). This “professionalisation of teachers” was identified as a component of education reform as long ago as 1993 in a study commissioned by the US Department of Education which found a need for increased teacher skills and ongoing opportunities to receive training and feedback (US Department of Education, 1993). More recent findings by Hattie (2003) show that teachers account for 30 per cent of explained variance in students’ achievement of outcomes, emphasising the need for high quality teachers and thoughtful investment in teacher professional learning.

2.4 Teacher Professional Learning and ICT

As professionals, teachers need the content knowledge of their subject or discipline – the “what” – as well as pedagogical knowledge, “the processes and practices or methods of teaching and learning” (Mishra & Koehler, 2006, p. 1026) – the “how”. These needs are heightened with the introduction of ICT as they must also have a level of technical

understanding in order to operate the technology and hence ongoing professional learning becomes even more critical as new technologies become available. However, without changes to the way curriculum is developed, implemented and assessed, technology will be used within the constraints of old teaching practices and limit the potential afforded by the technology (Wiske, 2000; Ward, 2003; Prestridge, 2007). Teachers now require pedagogical understandings that integrate the use of technology in order to prepare students for life and work in an ever changing technological landscape (Zhao, Pugh, Sheldon & Byers, 2002; Ertmer, 2005; John, 2005; John & Wheeler, 2008).

Technological pedagogical content knowledge is a term used for this blending of content, pedagogy and the use of technology (Ferdig, 2006; Mishra & Koehler, 2006; Manfra & Hammond, 2008). It builds on the work of Shulman (1986) who first identified the need for pedagogical content knowledge – where pedagogy and content intersect – as a necessary element of teacher education. This complex relationship between ICT skills and pedagogy calls for new approaches to teacher professional learning that can be personalised to meet the ICT skills and pedagogical needs of individual teachers. Ongoing support is necessary if ICT professional learning is to go beyond skill development related to the use of technology to those strategies which integrate ICT in non-traditional ways (CEO Forum, 1999; McKenzie, 2001; Newhouse, 2002).

High quality ICT professional learning should include all the elements of effective professional learning, with the added technology dimension, including changes to pedagogical practice, for as Mitchem, Wells and Wells (2003) note: “As new social and cultural shifts due to technology occur, teachers must be adequately prepared in all aspects of their professional practice allowing schools to become the leader, rather than merely a participant in technology reform efforts” (p. 398). Moyle’s (2007) findings that “leadership and professional learning issues have emerged as central to both school reform that includes the integration of ICT, and to local school management” (p. 3) highlight an important challenge for school leaders as they strive to create a strong professional learning culture for teachers which supports key school and system strategic goals yet meets the needs of all teachers. The integration of ICT adds a further layer of complexity for leaders to support teachers in developing a high level of ICT proficiency and strong pedagogical understanding.

2.5 Peer Coaching as a Professional Learning Strategy

Peer coaching is one strategy that may support teachers to develop ICT skills and pedagogical understandings and reflects many of the principles of effective professional learning. It provides an inquiry-based, democratic framework for teachers to learn from teachers, focusing on learning that is of direct relevance to the work of the learner, that is school-based and can contribute to a culture of ongoing school improvement. Research by Tibbits (as cited in Calnin, 2006) “demonstrates that peer coaching with built-in long-term feedback and reflection cycles, has the greatest capacity to sustain changes in teachers’ behaviour, beliefs and practices” (p. 12). In an ICT context, Moonen and Voogt (1998) write that “in order for educational technology infusion to occur in education, teachers need more than just knowledge about educational technology, they need practical examples and ideas; and they need coaching and mentoring [as] they try new techniques in their classrooms” (p. 103).

Before continuing, it is important to understand what is meant by *peer coaching* as distinct from *mentoring* as the two terms are often confused.

2.5.1 Mentoring and Peer Coaching

The notion of mentoring goes back to ancient Greece, where the character of Mentor, an old, wise man, was asked to look after the son of the king. A mentor is considered to have wisdom and a depth and wealth of experience to be shared or imparted to a mentee or protégé. Hean (2005) defines mentoring as “the pairing of a trainee with an experienced partner (the mentor), to facilitate learning, in a mentoring programme” (p. 7). This view is reinforced by Connor and Clawson (2004) who see mentoring as “a relationship in which an expert, the mentor, gives advice to another who is less experienced, the protégé (p. 271). Conway (1998) and Greene (2004) also highlight mentor experience as the significant element in a mentoring partnership.

In a commercial sense, coaching has become an industry in itself. A search of the internet reveals information on executive coaching, life coaching, business coaching, career coaching and the list goes on. In a broad sense, Rogers (2004) defines coaching as where “the coach’s sole aim is to work with the client to achieve all of the client’s potentials - as defined by the client” (p. 7). Hoult (2005) puts it more simply when he writes “when we

COACH we elicit the solution from the client. In its purest sense we are totally believing that the “right” answer is within them” (p. 13). Thomas and Smith (2006) call this type of coaching “non-directive” coaching, in that it uses processes that “do not involve advising or telling, but instead rely on questioning and reflecting back what people say in order to assist them to make their own choices” (p. 27).

There does not seem to be a clearly defined, hard and fast rule differentiating mentoring from peer coaching and, in fact, many parallels between the two can be identified. A search of the literature found that mentoring often includes elements of coaching, counselling or buddying (Department of Education & Training, Victoria, 2003b. Rhodes, Stokes and Hampton (2004) tell us that coaching “is seen as being related to mentoring but it is a discrete activity” (p. 77). Calderhead and Shorrock (1997) also identify elements common to both strategies, including the need to carefully select and match mentors with mentees and peer coaches with learners, and the need to build and maintain trust and confidentiality. Earley and Bubb (2004) do not distinguish between coaching and mentoring. They view coaching as a “development tool that helps people move forward in their work” (p. 55) with the power of the coaching model lying in the questioning techniques that are used. McKenzie (1999) also makes no distinction when discussing coaches and mentors and says of coaching and mentoring “the learning opportunities are matched to the readiness level, skills and preferences of each teacher. The content is drawn from the actual curriculum. The experience is fully integrated into classroom life and expressly designed to produce student learning” (para. 4).

While the level of experience and expertise in a mentoring partnership distinguishes it from a peer coaching partnership, there is also evidence in the literature to indicate that the duration of the partnership is also a difference. Carr, Herman and Harris (2005) state that “ideally, mentoring is at least a one-year process and is even better when the relationship lasts for two or three years” (p. 17). Conyers (2004) makes a similar distinction, viewing mentoring as a long-term relationship, while coaching “entails short-term, issue-specific advice or guidance” (p. 21).

Bogner (2002), Lord and Miller (2000) and Riel and Becker (2000) use the term “teacher leadership” as an umbrella term which could include mentors, coaches, peer teachers and specialists, to name just a few. They put forward the belief that teachers in these roles can

make a major contribution to progressing educational reform and that this is an area worthy of future investigation. While this is outside the scope of this research, it does raise the issue of the contribution to school leadership which can be made by teachers working in a peer coach and mentor capacity.

Delving deeper into what is meant by coaching in a school setting uncovers many layers and possibilities which must be understood in order to arrive at an agreed understanding of the term *coaching* and peer coaching as it is used within an ICT context.

2.5.2 Peer Coaching: The Practice

For the purposes of this research study, peer coaching can be defined as “a process by which teachers work together to enrich the curriculum and pedagogy within subjects” (Beavers, 2001, Peer Coaching section, para. 1). This is further highlighted by Galbraith and Anstrom (as cited in Diaz-Maggioli, 2004) “it is a confidential process through which teachers share their expertise and provide one another with feedback, support, and assistance for the purpose of refining present skills, learning new skills, and/or solving classroom related problems” (p. 77).

Possibly no work on peer coaching in education is complete without acknowledging the work of Joyce and Showers (1982, 1988). Joyce and Showers were the pioneers of the use of peer coaching in schools, researching and writing in this area since the early 1980s. While initially they wrote on “coaching” as a strategy for teacher appraisal, they added the term “peer” in 1984 to distinguish it as an approach to staff development rather than staff evaluation (Ackland, 1991). Joyce and Showers included skill development, observation of demonstration, practice of the skill with feedback provided and then ongoing coaching to support the integration of the new skill as a regular part of each teacher’s practice. It is a highly collaborative approach, with both parties equal, learning together and supporting each other (Joyce & Showers, 1982). Joyce and Showers saw the coaching element to be essential if there was to be transfer of new professional learning to the teacher’s classroom repertoire. As their model evolved, their approach to peer coaching broadened to include whole faculties where all teachers had to agree to participate in peer coaching as part of study teams. A fundamental difference in their later

model is the omission of verbal feedback, as this could be interpreted as evaluation and thus impact on the collaborative partnership (Showers & Joyce, 1996).

The steps identified by Joyce and Showers are also found more broadly in the literature, with three stages including a pre-observation conference where the focus or skill to be improved is identified, observation by the peer coach in which data is collected and finally a post-observation conference where the peer coach shares his/her observations, the learner sets new goals and the cycle begins again (Arnau, Kahrs & Kruskamp, 2004; Diaz-Maggioli, 2004; Anderson, Barksdale & Hite, 2005). Carr, Herman and Harris (2005) have a five-phase model, adding an analysis and strategy phase to follow classroom observation, in which the peer coach analyses the data and identifies the best way to present it to his/her learner; and a post-analysis conference which follows the post-observation conference. The post-analysis conference is aimed at providing the peer coach with feedback on their performance and an opportunity for them to reflect and refine their approach for future work. Showers (cited in Zepeda, 1999) adds further detail to the peer coaching programme by including an assessment of the climate for change within the learner and the writing of lesson plans that incorporate new practices identified with the peer coach. These additional steps to the core pre-observation, observation and post-observation stages could be seen as requirements necessary for the peer coach to fulfil the obligations of their role rather than as discrete stages in their own right. Swafford (1998) identifies both out-of-class and in-class activities as taking place in peer coaching. Activities such as problem-solving and co-planning are typical out-of-class activities, while observation is the key in-class activity.

While coaching can be done by an expert outside of the school, peer coaching is coaching by a colleague within the same faculty, department or teaching unit. This in itself can contribute to the connection between peer coach and learner as there is an understanding and first-hand experience of the environment in which the learning takes place. It also reduces the isolation often felt by teachers working behind closed classroom doors by providing regular opportunities for professional dialogue and generating solutions to problems (Galbraith & Anstrom, 1995). The collaborative element of peer coaching is important and contributes to the professional growth of the participants as “coaching develops the shared language and common understandings necessary for the collegial study of new knowledge and skills” (Joyce & Showers, 1988, p. 84). Peer coaching

therefore can be seen as a mechanism – the “who” you coach with – which enables teachers to work collaboratively for the purpose of improving an area of need which an individual teacher has identified for him/herself to create new understandings. Thus peer coaching places the learner in an active role, defining and shaping his/her own learning experiences (Jenkins, Hamrick & Todorovich, 2002; Bogner, 2002; Connor & Clawson, 2004). It reflects a constructivist approach to teacher professional learning and as Toto (2006) writes, peer coaching “fundamentally supports and enhances other forms of constructive coaching practices” (p. 69).

The peer coach must also have communication skills which include “the skills to open reflective conversations, actively listen, and establish trusting, congenial relationships with the classroom teacher” (Lapp, Fisher, Flood & Frey, 2003, p. 35) and the ability to ask skilful questions, challenge thinking and guide reflection (Clayson, 2006; McCoy, 2006).

The skills identified above would be part of a core peer coaching “tool kit”, regardless of the specific context. However, in addition to these skills, ICT peer coaches must also have a significant level of ICT expertise if they are to support other teachers to use the technology “tools” – the hardware, software, peripherals and infrastructure. In addition, if they are to do more than support the skill development required to operate these tools, ICT peer coaches must also have a strong pedagogical framework with which to support the learner as they move beyond the skill acquisition to integration of the technology to support student learning.

2.5.3 Types of Coaching

Cognitive coaching is one type of coaching that is similar to the Joyce and Showers (1988) model of peer coaching as it is also a reflective and non-evaluative model to support teacher professional learning. Cognitive coaching is a model which facilitates “the practioner’s thinking, perceptions, beliefs and assumptions towards the goal of self-directed learning and increased complexity of cognitive processing” (Costa & Garmston, 2002, p. 5). Cognitive coaching also uses a cyclic model of planning, observing and reflecting, with conferences central to the planning and reflecting stages. The conferences are intended to offer opportunities for rich dialogue in which clear goals and processes are set, new learning constructed and refinements explored. It is also a constructivist

approach, where “learning is an active process requiring the learner to ‘construct’ his or her own understanding of the topic” (Mehlinger & Powers, 2002, p. 13). As such then, the cognitive coach is required to develop an understanding of the needs of the learner and have the skills which will enable him/her to facilitate dialogue through which the learner can reflect on practice, identify goals and strategies for achieving those goals. The cognitive coach must carefully guide and not direct the process. McLymont and da Costa (1998), in using cognitive coaching as a professional learning tool in their study of high school maths teachers, reported in their findings that “cognitive coaching as the vehicle for professional development is an action and experience, not just on the physical level but in the way we communicate” (p. 43).

Other coaching types are also identified in the literature, such as collegial coaching, challenge coaching, technical coaching and team coaching. Wong and Nicotera (2003) group these types of coaching into categories which reflect the types of professional learning strategies used to support their development. They see technical and team coaching as being about the integration of new curriculum and teaching strategies; cognitive and collegial coaching as being about supporting reflective practices and opportunities for professional dialogue; and challenge coaching as being about a specific issue at a classroom or whole school level. Swafford (1998) notes that coaching rarely uses just one type, and a mix of strategies is needed as the coach optimises learning opportunities for their colleague. However, these types of coaching models are also peer coaching models in that they are based on teachers working together in a collaborative, supportive environment for the purpose of improving their classroom practice.

Two other types of coaching identified by Anderson (1994) – expert coaching and mirroring coaching – possibly do not fit with the coaching types identified above. “In ‘expert coaching’, a stronger, more experienced partner serves as a feedback observer for teacher-defined targeted behaviours. In “mirroring” coaching, the teacher or partner serves simply as a data collector, providing feedback only in the form of raw data” (p. 3). Expert coaching could be interpreted as being more of a mentor–mentee relationship. Both of these types of coaching lack the ongoing relationship, professional dialogue and collaboration which are central to the other coaching models.

A search of the literature shows peer coaching being used as a strategy to support teacher professional learning in a diverse range of areas which includes literacy education (Gibson, 2005), skills development in physical education (Sariscsany, 1996; Jenkins, Hamrick & Todorovich, 2002), education for gifted students (Cohen, 1997), linguistic coaching (Galbraith & Anstrom, 1995; Caccia, 1996) and media literacy and arts education (Jolls, 2005). Peer coaching has also been used as a form of supervision with both pre-service and in-service teachers (Arnau, Kahrs & Kruskamp, 2004; Cantor & Schaar, 2005).

2.5.4 Peer Coaching Defined

It can be seen from the literature that the distinctions between peer coaching and mentoring can be ambiguous and that peer coaching itself can take many forms and be made up of many elements.

For the purpose of this study, ICT peer coaching is seen as a professional learning strategy in which collaboration and collegiality are central. It may include aspects of coaching models such as cognitive coaching or technical coaching. However, the role of the ICT peer coach is to support his/her peers to effectively integrate the use of ICT within their teaching and learning programmes by working with him/her to identify goals, provide feedback, guide reflection and co-construct new knowledge. The ICT peer coach may take the lead role in the beginning to establish the relationship, build a climate of trust and a supportive environment. Their focus is on developing both the ICT skills and pedagogical understanding of their learner, though the peer coach's learning too, could be enhanced along the way. Peer coaching is distinct from mentoring in that the peer coach does not tell the learner what they could or should be doing, but instead, uses skilful questioning to guide the learner towards developing their own understandings.

Peer coaching in this study can include a broad range of activities that the ICT peer coach utilises to support the learner in achieving his/her goals. It may therefore include the traditional pre-observation conference, observation and post-observation conference, but is not limited to this model and can include activities such as team teaching, joint curriculum planning and modelling of classroom practice. As ICT peer coaches, they must be confident users of technology, but not necessarily be ICT "gurus", as the key focus is the use of ICT in the curriculum. Instead, they are good teachers, with a strong

understanding of teaching and learning. ICT peer coaches may be fulltime classroom teachers, have another role within the school e.g. Welfare Coordinator and ICT peer coach or may be full time in the role of ICT coach. They are a “peer” in that they are a fellow staff member and not an outsider drawn from beyond the school. The coachee is the “learner”, working actively with the ICT peer coach to set goals and improve their ICT skill and understanding.

2.5.5 Peer Coaching and Systemic Reform

Two coaching programmes were introduced in the United Kingdom at a national level as strategies to transform teaching and learning by building capacity in order to improve student learning. The transformational capacity of coaching is noted by Mowat (2006) who says “Coaching methodologies, used within a school setting, have the capacity to transform a school and its professional staff Where coaching becomes much more powerful is when it is linked to, and assists, the leverage of whole-school transformation” (Linking Coaching to Purposeful Transformation section, para. 1).

A draft national framework, *Mentoring and Coaching CPD: Capacity Building Project* (Centre for the Use of Research and Evidence in Education, 2004), was piloted by the Department for Education and Skills (DfES) in the United Kingdom from 2004–05. Developed by the Centre for the Use of Research and Evidence in Education, the framework identified principles, core concepts and skills for mentors, specialist coaches and co-coaches. In specialist coaching, the focus was on the development of a specific element of the learner’s classroom practice, while with co-coaching, both participants were learners seeking to broaden their knowledge and skills through collaboration and external support as required. From the draft framework evolved *Leading Coaching in Schools* (Creasy & Paterson, 2005), a workbook for use by school leaders. In addition to background information on coaching, the workbook identified seven “action implications” which were suggestions for creating a culture of coaching rather than outlining what could be seen as a more routine implementation plan to establish a peer coaching programme in a school. The action implications required principals and their staff to reflect on their current beliefs and practices, and the context at a school and system level in place to support continuous professional learning.

A further initiative introduced in 2005 and developed by the National Teaching and Learning Change Programme was the establishment of Subject Learning Coaches. The programme was based on a peer coaching approach. “Subject Learning Coaches are non-judgemental, critical friends who can help their peers view fresh perspectives” (National Teaching and Learning Programme, n.d., The power of coaching section, para. 2). Subject Learning Coaches were nominated by managers and received support through three different strategies: (i) a professional training programme to develop the skills required for coaching; (ii) participation in subject coaching networks; and (iii) access to subject-specific, multimedia teaching and learning resources. An evaluation of the Subject Learning Coaches’ Professional Training Programme by Browne (2006), while acknowledging the programme had only been in place for a short time, identified highly positive testimonies by the subject coaches of peer coaching as “a tool to transform practice, to impact on learners and change lives” (p. 41). It is worth noting too, that the Subject Learning Coaches programme included professional development for the coaches. This is an element that is often missing from coaching programmes. There is little in the literature that identifies the non-content or curriculum related skills and understanding that peer coaches require, nor suggestions for the types of professional learning that could support them in undertaking their role. Yet these are critical signposts to guide school leaders and potential peer coaches contemplating a peer coaching programme. Wong and Nicotera (2003) identify lack of training, resources and evaluation as problems that often impact on the success of peer coaching. Robbins (1991) outlines a training programme for peer coaches, spread out over a number of weeks to allow coaches to try out new techniques, ranging from theory and demonstration through to practice and feedback.

2.5.6 Peer Coaching to Support Use of ICT

Studies by Riel and Becker (2000), Becta (2005) and Leung, Watters and Ginns (2005) highlight the value of peers in supporting colleagues’ use of ICT through the sharing of resources and the development of ICT effective pedagogies. A study by Matthew, Callaway, Letendre and Kimbell-Lopez (2002) examined the benefits of pre-service teachers coaching teacher educators. Two studies on technology coaching were found, but the focus was on the development of technology skills, not pedagogy. In one of these studies, Sugar (2005) presents a study of technology coaching where one coach was matched with nine teachers to support them in integrating technology in their classrooms.

In this study, the technology coach assisted teachers by supporting them to develop basic technology skills, providing technical support, developing resources such as PowerPoint presentations for the teachers to use and by collaborating on project development. Similarly, in the second study, Barnes (2005) describes an action research study which examined the impact of ongoing support provided by peer coaches on teachers' technology skills and on their use of technology in the classroom. However, neither of these studies had a focus on changes to pedagogical practice and this leads to questions about the long-term impact of the coaching.

There is a paucity of literature available which researches the role of ICT peer coaches specifically, unpacks what an ICT peer coaching programme looks like in a primary or secondary education setting or examines its role in supporting other initiatives, programmes or reforms across the school. This type of research is particularly important. There is a need for teachers to be supported to develop ICT skills. As Joyce and Showers (1982) write “unless people develop skill in a new approach, they have no chance whatsoever of adding it to their repertoire” (p. 5). However, skill development in isolation is not enough. There is evidence to show that teachers want training on technologies available in their own school, preferring “the ‘hot’ information and advice that peers and colleagues could provide, rather than ‘cold’ information from manuals and workbooks – and training that addressed their specific needs, rather than the ‘one size fits all’ approach” (Condie, Munro, Seagraves & Kenesson, 2007, p. 19). ICT skill development – the understanding and ability to use the technology – can create its own set of anxieties and issues such as ready access to a range of technologies and software that are unlikely to occur in other peer coaching scenarios. The development of these skills to a certain level must be in place before the learner can really start to envision and plan for their effective use in the classroom and developing their skills “in-house” with technology that is familiar is important. However, how to best support teachers to then transfer skills into a teaching and learning programme and make changes to the “how” of teaching with ICT is a critical element of ICT integration worthy of further research.

2.5.7 Peer Coaching and Reflection

Before progressing on to examine ICT and professional learning in a Victorian (Australia) education context, it is worth pausing here to briefly consider the role of reflection in peer coaching. As can be seen from the literature examined so far, reflection

is often highlighted as an integral element in both teacher professional learning and coaching. Hatton and Smith (1995) and Moon (2006) note the complexity of reflection and the problematic nature in defining it and it is beyond the scope of this study to examine the myriad of models for reflection. However, in examining various definitions and characteristics of reflection, it soon becomes apparent that the two are intertwined.

Dewey (1933) is seen as the modern leader of the concept of reflection (Hatton & Smith, 1995; Valli, 1997). He described reflective thinking as “active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends” (p. 9). Reflection is often described as a process for developing new understanding to inform next steps; it is intentional and active for the purpose of developing new learning or guiding action (Boud, Keogh & Walker, 1985; Brockbank & McGill, 2006; Butler, 1996; Moon, 2006).

Schön (1987) writes about reflection as being clearly linked to action, describing “reflection-in-action” and “reflection-on-action”. Schön describes reflection-in-action as “smooth sequences of activity” (p. 26) without the conscious need to consider each step. However, when unexpected results or an error occur, one may ignore those results or respond through reflection. Reflection-on-action is therefore a looking back over a past action, to problem-solve and understand.

In an ICT peer coaching sense, reflection-on-action would occur at different stages of the peer coaching cycle. Most obviously, it would occur at the post-observation conference, after the action, the observation, has taken place. In this phase, the coaching conversation in which the learner and peer coach discuss the learner’s experience and the data and feedback are presented, all come together to support the reflective process. Reflection-on-action could also be drawn upon at a subsequent pre-observation stage, to inform planning for the next peer coaching cycle. This reflection-on-action within the peer coaching context strengthens the learner’s ICT skills and understanding so that their own smooth sequences of activity can develop.

Reflection-in-action could occur during the observation session of an ICT peer coaching cycle, where for example, the demonstration of an ICT process has been unsuccessful or where students have been unable to follow the learner’s carefully prepared verbal

instructions. However, reflection-in-action is a more complex process, “calling for multiple types of reflection and perspectives to be applied during an unfolding professional situation” (Hatton & Smith, 1995, p. 44).

Valli (1997) describes reflective teachers as being teachers who “examine their own practice and school policies in order to become better teachers, analyse problems from multiple perspectives, and use new evidence to reassess decisions” (p. 70). However, Day (1993) writes: “reflection is a necessary but not sufficient condition for learning. Confrontation either by self or others must occur” (p. 88), a view supported also by Brookfield (1995). While reflection can occur autonomously and result in changes in practice, a peer coaching framework would seem to provide the environment where a trusting relationship and the space for dialogue already exist, enabling reflection to occur (York-Barr, Sommers, Ghore & Montie, 2006). In this environment, the learner’s current thinking and practice are challenged and support provided for new learning to be constructed. Brockbank and McGill (2006) take this view even further, believing that interpersonal reflection such as through a mentoring or coaching relationship is required if transformational learning is to occur.

There are various strategies identified in the literature to support reflection in tangible ways. “There are journals, diaries, record books, portfolios, verbatims, sociological diaries, dossiers and logs” (Walker, 1985, p. 54). The use of journals and portfolios may be of particular value in an ICT peer coaching context and are examined here.

As an entity in itself, journaling could be no more than a capturing of data, a process or event – unless accompanied by an analysis or reflective commentary (Niday, Boreen & Potts, 2009; Moon, 2006). Combining writing with reflection supports an analysis of action, enabling insights into practice to emerge (Bailey, Curtis & Nunan, 1998; Taggart & Wilson, 2005; Tripp, 1988). The format of the journal can vary, from a written format to audio files, mind maps and videos, but it is something which builds up over time and is based on the reflections of the writer (Moon, 2006).

The use of journals can be seen as a form of scaffolding to support teacher reflection and continuous learning. However, the capacity of the teacher to interrogate his/her thoughts, experiences and understanding will determine the depth and power of his/her reflection to

transform learning. Hatton and Smith (1995) identified a four-level framework with which to assess the levels of written reflections by higher education students in their work placements. The levels were descriptive writing, descriptive reflection, dialogical reflection and critical reflection. The lowest level, descriptive writing shows no evidence of reflection, while descriptive reflection provides some reflection, usually from one perspective. In dialogic reflection, a deliberate and analytical stepping-back from events and an exploration of different viewpoints takes place. At the highest and most challenging level, critical reflection “demonstrates an awareness that actions and events are not only located in, and explicable by, reference to multiple perspectives but are located in, and influenced by multiple historical, and socio-political contexts” (p. 49). In an ICT peer coaching sense, critical reflection draws together such elements as the values and beliefs that underpin the learner’s classroom programme, the school’s learning and teaching philosophy, the level of ICT access that is available and professional learning culture that exists within the school. A framework such as that of Hatton and Smith can provide a lens which learners can use to guide their reflection beyond the descriptive level and can also provide a guide for peer coaches against which to gauge their interactions with their learners.

Teaching portfolios, on the other hand, are a collection of artefacts, “a purposeful collection of any aspect of a teacher’s work that tells the story of a teacher’s efforts, skills, abilities, achievements, and contributions to his or her students, colleagues” (Brown & Wolfe-Quintero, 1997, p. 28). Portfolios can include such as artefacts as lesson plans, teacher-developed resources, student samples, assessment tasks, student performance data and peer observation (Johnson, Mims-Cox & Doyle-Nichols, 2010; York-Barr, Sommers, Ghore & Montie, 2006). As with journals, a teaching portfolio could become a disconnected, random collection of artefacts, however, the consideration, reviewing, selecting, rejecting and replacing of items for inclusion in the portfolio is a reflective process itself. They provide multiple sources of data which “confront the compiler with the reality of his or her teaching persona from the perspective of significant professional others” (Bailey, Curtis & Nunan, 1998, p. 551).

In an ICT peer coaching context, the use of technology to create the journals and portfolios is particularly pertinent, giving learners authentic opportunities to potentially use a range of ICT. “Technology provides an electronic space in which to engage

in...reflection, supporting individual consideration and collaborative discussion in both formal and informal environments” (Shoffner, 2009, p. 788). Web logs (blogs), discussion lists and emails are some simple examples which could be used to support these processes. Whether electronic or hard-copy, journals and portfolios offer learners and peer coaches in an ICT peer coaching programme a shared record of the learning process. They support the reflection-on-action process and can provide a springboard for continuous reflection.

As this section has shown, the increasing use of ICT in education requires new models of professional learning for teachers that facilitate both skill development and pedagogical changes needed to support the integration of ICT into the curriculum. ICT peer coaching is one strategy which reflects many of the elements of effective professional learning, yet has gained little prominence in schools to date, despite other forms of peer coaching being adopted. The following section presents the education landscape in Victoria, the context for this study, and examines the education reform agenda in place at the time of the study.

2.6 Victorian Education Scenario

There are two key elements within Victorian education worthy of examination at this point as they provide the context for the study. The first is the ICT landscape and the second is the education reform agenda in place at the time of the study. As has been discussed earlier, while the expenditure on ICT in education has been significant, a close look at the level of access and the range of ICT available in schools may influence what type and how much professional learning is made available to teachers. An education reform agenda may provide further impetus in schools to boost professional learning related to ICT for teachers, or it may provide competing demands which may necessitate professional learning to be focused on other areas. An examination of these two areas may provide insights into how ICT peer coaching might look in the Victorian education environment.

2.6.1 ICT Landscape

A number of key ICT programmes and initiatives were introduced into Victorian schools during the mid to late 1990s which have continued to shape ICT access and use in

schools. Perhaps the most significant of these was the introduction of the *Notebooks for Teachers and Principals* initiative in 1998. This initiative, which is still ongoing, provides access to notebook computers for almost 37,000 teachers and principals across the state via a three-year leasing arrangement. The aims of the initiative included an emphasis on developing the technology skills of principals and teachers and the improvement of teacher skills in integrating technologies into curriculum (Department of Education & Training, Victoria, 2002). A range of key planning documents to support this initiative were developed to provide advice and strategies to support technology planning and implementation in schools. *Learning Technologies in Victorian Schools 1998–2001* (Department of Education, Victoria, 1998a) provided a planning framework for schools to meet identified objectives by the end of 2001. Support for schools to develop a comprehensive technology plan is currently in place through the *eLearning Planning Guide* (Department of Education and Early Childhood Development, Victoria, 2009a). This resource, published by the Department of Education and Early Childhood Development, Victoria in 2009 (which had changed its name from the Department of Education & Training in 2007), was designed to support Victorian government schools in developing a plan “that will improve outcomes through the integration of information and communication technologies (ICT) across all aspects of school activity” (Department of Education and Early Childhood Development, Victoria, 2009a, p. 2).

2.6.2 ICT Professional Learning

A range of resources and programmes to support ICT professional learning was also put in place over the years. The *Learning Technologies Teacher Capabilities* (Department of Education, Victoria, 1998b) package was designed to assist teachers to develop personal professional learning plans. Initial introductory training for notebook recipients was also available. Two professional learning programmes which were available in the mid-1990s were *Computers Across the Primary Curriculum* (Directorate of School Education, 1995) and *Learning with the Internet* (Directorate of School Education, 1996). Both programmes were made up of a number of modules, were hands on and had a teaching and learning focus. An *ICT Professional Learning Strategy 2005–2007* (Department of Education & Training, Victoria, n.d.a) documented a range of professional learning programmes to support teachers and principals and help them achieve success. These included programmes to support the integration of digital resources available to all Victorian government schools, such as digital learning objects developed through The

Learning Federation and professional learning programmes through partnerships with organisations such as Intel and Microsoft. DE&T's partnership with Intel saw the introduction of the *Teach to the Future*® programme, a modular professional learning programme which used a train-the-trainer model and focused on the integration of ICT pedagogy (Department of Education & Training, Victoria, n.d.a).

The partnership with Microsoft and its global *Partners in Learning* programme supported the establishment of the *Creating eLearning Leaders* (CeLL) initiative, through which DE&T identified twenty-eight schools across the state to take a lead role in providing ICT professional learning to other schools and support whole school change. The initiative ran from June 2004 to July 2007 (Department of Education and Early Childhood Development, Victoria, 2007a). Through this partnership, DE&T made available a scholarship for four Victorian government school teachers to complete an international ten-day professional learning programme on ICT peer coaching. The Peer Coaching Program was developed by Microsoft in collaboration with the Puget Sound Center for Teaching, Learning and Collaboration.

One of DE&T's requirements of the scholarship was for each recipient to be an ICT peer coach during 2006, working with one or two colleagues in their school using a selection of resources made available through the training and to report on the pilot to DE&T. Based on feedback from the four teachers, a further pilot was run during 2007. Forty Victorian government schools participated in the pilot, though only twenty-five schools were included in the evaluation. A brief summary of the findings from this pilot were presented in the background provided in the *ICT Peer Coaching Manual 2008* (Department of Education and Early Childhood Development, Victoria, 2008e). While few details were provided, they indicated that more time would be required for change to occur and that opportunities for coaches and coachees to meet was problematic. Little connection was also identified between ICT peer coaching and Performance and Development Culture. The Manual contained planning templates, information for school leaders and teachers but to what extent and how they were used by the participants in the pilot was not indicated.

While the *ICT Professional Learning Strategy* ended in 2007, support for ICT professional learning has continued. The *ePotential ICT Capabilities Resources*

(Department of Education and Early Childhood Development, Victoria, 2007) released in 2007, which builds on the *Learning Technologies Teacher Capabilities* resource, enables Victorian government school teachers to complete an online survey to assess their current ICT skills and understanding and plot their progress against a continuum. ICT professional learning programmes through Intel and Microsoft have also continued, providing teachers and principals with a range of opportunities to develop their ICT skills and understandings. The *Catalyst: Changing Teacher Practice Initiative* followed on from *CeLL* as the next phase of DEECD's partnership with Microsoft. Nine Victorian government schools were involved in the initiative, which ran from December 2007 to December 2009, and were supported with a \$40,000 grant over two years (Department of Education and Early Childhood Development, Victoria, 2009c). Professional learning for principals, school leaders and teachers was provided. ICT peer coaching was included as one professional learning strategy to support these schools.

As can be seen, a range of professional learning resources and programmes have been available to teachers in Victoria for a number of years to support the integration of ICT into their teaching and learning practice. ICT peer coaching was included as one ICT professional learning option but no further evidence of its take-up by schools or its impact was available at the commencement of this research. A 2009 ICT Peer Coaching Manual is available on the DEECD website (<http://www.education.vic.gov.au/studentlearning/teachingresources/ict/proflearn/coaching.htm>). It raises an important question of what role, if any, the DEECD sees ICT peer coaching as having, at least in the form that is presented in the Manual, in supporting teachers to develop their skills and understanding of ICT use in the classroom.

2.6.3 Victorian Education Reform Agenda

In 2003, the Department of Education & Training, Victoria released the first *Blueprint for Government Schools* (Department of Education & Training, Victoria, 2003a), which set out the future direction for education. Seven flagship strategies were identified:

- Flagship Strategy 1: Student Learning
- Flagship Strategy 2: Developing a New Resource Allocation Model
- Flagship Strategy 3: Building Leadership Capacity
- Flagship Strategy 4: Creating and Supporting a Performance and Development Culture

- Flagship Strategy 5: Teacher Professional Development
- Flagship Strategy 6: School Improvement
- Flagship Strategy 7: Leading Schools Fund

(Department of Education & Training, Victoria, 2003a).

The Flagship Strategies and their associated initiatives described in the *Blueprint* outlined a wide range of education reforms. It is worth examining some of the Flagship Strategies – *Student Learning* and *Creating and Supporting a Performance and Development Culture* – as they are of particular importance in the context of this study.

Through Flagship Strategy 1, Student Learning, the *Victorian Essential Learning Standards* (VELS), a new curriculum for Prep–Year 10, was developed and introduced in 2005 by the Victorian Curriculum and Assessment Authority (2006). The VELS framework required teachers to take a more integrated approach to curriculum planning. In doing so, VELS created an even greater imperative for all teachers to be skilled users of technology as they were now *all* teachers of technology, regardless of subject or discipline area or the year level they taught.

Also included in Flagship Strategy 1 was the *Principles of Learning and Teaching* (PoLT) initiative, which supported schools to implement pedagogical change. Within the PoLT Principles, two sub-points focused specifically on the use of technology, the first capitalising on “students’ experience of a technology rich world” and the second on the use of technology “in ways that reflect professional and community practices” (Department of Education & Training, Victoria, 2004, p. 9).

Flagship Strategy 4, *Creating and Supporting a Performance and Development Culture*, recognised the importance of organisational culture within a school as a major influence on student outcomes. Central to this strategy was a framework which assisted the school to develop values, beliefs and actions to improve teaching and learning. Through this process, schools identified their culture – the factors which contributed to their strengths and successes, as well as those factors which required further development. One of the five key features identified was that a Performance and Development Culture would introduce “evidence-based performance improvement through multiple forms of feedback” (Department of Education & Training, Victoria, 2006a, p. 13).

A key belief of the *Performance and Development Culture* strategy was that understanding how the teachers within a school worked together, collaborated, reflected and planned would lead to improved student learning. It was a collective journey, with all teachers sharing the responsibility. Such an approach resonates with Li (2004) who notes:

To initiate and sustain a culture in which teachers work with peers to improve both their own and their peers' practice, the teachers need first to believe that they have the right, and the potential, to influence the profession. A new paradigm on the roles and responsibilities of colleagues needs to be defined. (p. 154)

All Victorian government schools were to achieve Performance and Development Culture accreditation by the end of 2008, that is, to Level 4 of the Self Assessment Framework. In order to complete the accreditation process, schools assessed themselves against a set of performance standards indicators and were also independently assessed. Included in the performance standards indicators were multiple sources of feedback, which could include data from students and parents, student achievement data, as well as feedback from colleagues. Peer coaching has the potential to provide one source of feedback based on the observational data collected by the peer coach. Furthermore, as the focus for each coaching cycle is determined by the learner, this personalised approach to professional learning would support quality professional development, another of the performance standards indicators. Post-accreditation, there was an expectation that schools would continue to enhance their Performance and Development Culture to support continuous school improvement (Department of Education and Early Childhood Development, Victoria, 2009b).

Flagship Strategy 1 clearly specified both the place and role of ICT in student learning, while Flagship Strategy 4 focused on the development of a learning *and* teaching culture where professional learning was ongoing, valued and based on the needs of teachers. Together, these Flagship Strategies created an environment in which ICT peer coaching could have a pivotal role in supporting teachers to develop ICT-rich learning opportunities as they engage with colleagues to strengthen their own classroom practice. The need for such a role was further heightened through the inclusion of school design and learning spaces to cater for new technologies as an element of the reform agenda in *Building Futures: Caring for Your Child* (Department of Education & Training, Victoria,

2006b) and then in *Victorian School Design* (Department of Education and Early Childhood Development, Victoria, 2008a). ICT peer coaching could have a key role to support teachers as they explore new pedagogies better suited to learning and teaching in flexible, open spaces where ICT is always at the ready.

Running parallel to the Flagship Strategies identified in the *Blueprint for Government Schools* was the Department's ongoing investment in ICT infrastructure and the resources and programmes it provided for schools to support the use of ICT in Victorian government schools. In addition to the continuation of the *Notebooks for Teachers and Principals* initiative, information technology grants were made available to government schools to refresh and sustain their ICT to a cost of \$7 million per year (Department of Education & Training, Victoria, n.d. b). A wide area network, email access for teachers and students, technical support to schools and free and cost-reduced access to software were other examples of strategies in place to support the integration of ICT into student learning within Victoria. The rollout of a broadband network to government schools at a cost of \$89.3 million known as the VicSmart initiative, to increase internet access for students and teachers was commenced in 2006 (Department of Education & Training, Victoria, 2006c).

2.6.4 State Wide Coaching Initiatives

Two other Flagship Strategies are also worth noting briefly as they indicate steps taken towards the introduction of coaching as part of the then Department of Education and Training, Victoria's reform agenda. The first was Flagship Strategy 3, *Building Leadership Capacity*, which included a professional learning programme for experienced principals called "Coaching to enhance the capacity of experienced principals" (Department of Education & Training, Victoria, 2003c). Coaches for this programme were drawn from an external pool of consultants. Jackson and Sherry (2006), in writing about this programme described coaching when used in an empowering sense as ideal for working with experienced principals. The second was Flagship Strategy 7, the *Leading Schools Fund* (Department of Education & Training, Victoria, 2007). This Flagship Strategy focused on school transformation, with particular emphasis on secondary schools. In all, 159 clusters and schools were involved over three phases. Just under one-third of the involved schools identified some form of coaching and/or mentoring as one

of their strategies to support school transformation with additional staff funded through this Strategy. In contrast to the coaching programme for principals, McCoy (2006) writes that while teacher-leaders had been tagged as Teaching and Learning Coaches in Victoria, many of them had not been given professional learning to support them in their role.

Forty-five Literacy Specialists were introduced to Victorian government schools in the 2006–07 state budget and their role was to work one-on-one with classroom teachers and assist them to teach literacy more effectively (Department of Education & Training, Victoria, n.d. c). These Literacy Specialists then became part of a broader coaching initiative in 2008 which saw the addition of 200 Teaching and Learning Coaches, 50 Ultranet Coaches and 15 Koorie Literacy Coaches. Their focus was to build teacher capacity “with the goal of improving the quality of teaching in literacy, mathematics and science and supporting high quality use of the Ultranet for planning and delivery of curriculum online” (Department of Education and Early Childhood Development, Victoria, 2008b).

The development of the Ultranet, an online learning environment, was announced in 2006 as a \$60.5 million project for Victorian government schools. The 2008 *Blueprint for Education and Early Childhood Development* stated that schools would be provided with coaching and training to support its use (Department of Education and Early Childhood Development, Victoria, 2008c). The introduction of the Ultranet to every Victorian government school during 2010, in addition to the employment of the Ultranet coaches in the course of this research, is a significant investment by DEECD and heightens the importance of this study. As experts and champions of the Ultranet, these coaches could be laying the foundation for effective use of the Ultranet, which could then be extended and enhanced by school-based ICT peer coaches, as they support their learners to maximise its full potential for learning and teaching.

With a seemingly comprehensive reform strategy in place since late 2003, Victorian education seems set for changes ranging from the type of curriculum taught in the classroom through to school management and resourcing. However, none of the Flagship Strategies had a focus on ICT professional learning. This is despite millions of dollars being invested by successive state governments to maintain infrastructure, connectivity

and accessibility in Victorian schools. While a number of Flagship Strategies explicitly highlight the importance of ICT in student learning, and while Flagship Strategies 1, 4 and 7 included professional learning as part of their foci, the professional learning that is offered, the focus areas and the frequency are decisions made at the school level. Within this context of educational reform and the continuing focus on the ICT for teaching and learning, the question of how Victorian teachers can best be supported to integrate ICT in their teaching practice needs to be addressed.

Peer coaching is a professional learning strategy which can support a wide range of curriculum areas. While there are different models of peer coaching, the elements of collegiality, collaboration and communication in an atmosphere of trust amongst peers are central. ICT peer coaching has as an added layer of complexity as the level of access, quality of infrastructure and technical issues related to the use of the technology are critical factors which can impact on the success of the peer coaching partnership. Victoria's education reform agenda has heightened the need for quality ICT professional learning which is linked directly to teachers' work. Yet ICT peer coaching has not been a major focus at a system level as a possible school-based ICT professional learning strategy, despite the availability of the ICT peer coaching manual as a resource. It appears that the growing prevalence of coaching as a professional learning strategy in the Victorian education system is for external coaches to be used (and funded), to work with teachers and principals in their allocated schools. The opportunity to leverage off these coaches and so build the coaching capacity within schools is an area worthy of further investigation, particular in relation to the Ultranet coaches.

2.7 Summary

As this chapter has shown, the use of ICT in education is a "big ticket" item in terms of expenditure by education systems around the world. Yet new models of teacher professional learning are needed if the potential of the technology (and the expenditure) is to be realised and result in changing teacher practice and impact on student learning. ICT peer coaching is one strategy through which teachers can work collaboratively and where the focus is drawn directly from the classroom. While there is much in the literature on peer coaching in education, there is very little which focuses on ICT peer coaching.

This study explores ICT peer coaching. Chapter 3 outlines the research design and explains why a qualitative, constructivist research paradigm was used. It describes the collective case study methodology and the data gathering methods used for the study – interviews, observations and artefacts. The steps taken to analyse the data using manual and computer-assisted processes are described and the selection of a wiki format as the project component of this study is also explained.

Chapter 3

Research Design

3.1 Purpose of the Study

The type of professional learning that best supports teachers to purposively integrate a range of Information and Communication Technologies (ICT) in to their classroom programs is a key challenge for principals and teachers alike. The literature review in Chapter 2 highlighted that much teacher ICT professional development in the past has focused on the ICT skill development and not on changes to pedagogy.

This study examines the key question: “Does peer coaching as a professional learning strategy support teachers’ integration of Information and Communication Technology (ICT) into their learning and teaching programmes?” The sub-questions investigated are re-stated here as the component parts of the methodology are discussed.

- What are the key elements of an ICT peer coaching programme?
 - What is the main focus of the peer coaching partnership?
 - What are the essential characteristics required for a successful peer coach/learner relationship?
 - What classroom scheduling is required for a successful peer coaching programme?
- Do peer coaches make a difference to teachers’ growth in ICT skills and pedagogy?
- How could ICT peer coaching support other initiatives or reforms at the whole school level, and in particular, the school’s Performance and Development Culture accreditation process?
- What is the role of the school principal in supporting ICT peer coaching to maximise benefits?
- Is there a role for the system in supporting ICT peer coaching to build teacher capacity?

The study is a PhD (Project) and the findings have formed the basis for the *teacher2teacher: Peer Coaching for ICT* wiki. The wiki examines a whole school approach to ICT peer coaching and the level of support and planning required by the school leadership team, coach and learner. The research design described in this chapter contributed to the structure and content of the wiki, enabling a rich picture of ICT peer coaching to emerge through a range of data. The wiki content is elaborated on in Chapter 5.

3.2 Methodology

Denzin and Lincoln (2003) state that a “research design situates researchers in the empirical world and connects them to specific sites, persons, groups, institutions, and bodies of relevant and interpretive material, including documents and archives” (p. 36). This exploratory study used a constructivist research paradigm and qualitative research methods to address the key question “Does peer coaching as a professional learning strategy support teachers’ integration of Information and Communication Technology (ICT) into their learning and teaching programmes?”

Guba and Lincoln (1994) define a paradigm as “a basic belief system or world view that guides the investigator” (p. 105). This research is set within a constructivist paradigm in that it constructs understandings based on the observations and experiences (i.e., data) gathered from the cases being studied (Denzin & Lincoln, 2005). Constructivism is an epistemology, “a way of understanding and explaining how we know what we know” (Crotty, 1998, p. 3). Constructivists are “more interested in deeply understanding specific cases within a particular context than in hypothesizing about generalizations and causes across time and space” (Patton, 2002, p. 546). It is the paradigm through which this researcher drew meaning and created understanding of the cases examined. The constructivist paradigm has as its origins a naturalistic paradigm, which can be found in the literature of the 1980s and Lincoln and Guba wrote about it extensively (Lincoln & Guba, 1985). Qualitative methods are preferred by naturalists because they seem “more appropriate to the use of a human as the prime data collection instrument” (Guba & Lincoln, 1997, p. 88). In their later work, Guba and Lincoln described the constructivist paradigm as being about reconstructing and understanding the social world (Guba & Lincoln, 2005). In addition to a naturalistic procedure, the constructivist paradigm assumes that there are multiple realities and a subjectivist epistemology where

understandings are co-created as the researcher mines the experiences and understandings of the respondent (Denzin & Lincoln, 2003; Patton, 2002).

The use of qualitative methods in this study was appropriate as it examined the *process* which supported the implementation of ICT peer coaching rather than outcomes alone. This design enabled a rich collection of data from different perspectives – that of the peer coach, the learner and the principal. These methods are consistent with Creswell (2003) who notes through a qualitative study that the researcher “collects open-ended, emerging data with the primary intent of developing themes from the data” (p. 18). As Patton (2002) explains, “Qualitative methods are first and foremost research methods. They are ways of finding out what people do, know, think and feel by observing, interviewing, and analysing documents” (p. 145). Researchers approach qualitative research with an open mind and without pre-conceived ideas. Denzin and Lincoln (2005) describe qualitative research as involving “an interpretative, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them” (p. 3). Empirical materials such as interviews, observations, artefacts and personal experience provide the environment in which the qualitative researcher works. Within this setting, the qualitative researcher can be seen as a “bricoleur” or maker of quilts (Denzin & Lincoln, 2003), using a range of tools and methods appropriate for the task and piecing together different pieces of information which have been uncovered, scrutinising, reflecting, analysing and shifting each piece until a picture or understanding eventually emerges.

The main research design features are shown in Figure 1 below.

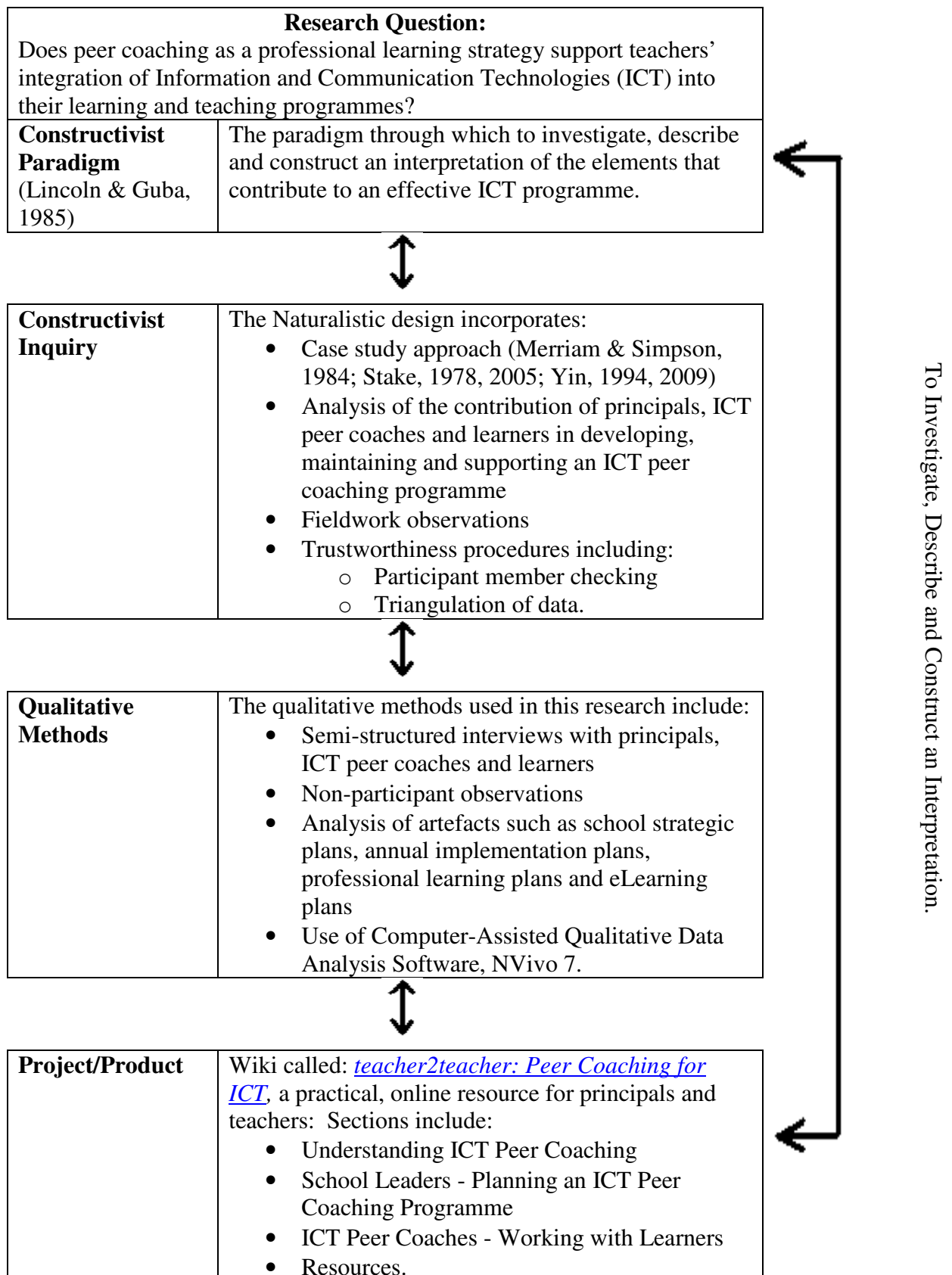


Figure 1. Main research design features.

3.3 Case Study

Yin (2009) writes that a case study “investigates a contemporary phenomenon in depth and within its real-life context” (p. 18). The subject to be examined in the case study can be a person, an institution, a responsibility, a programme - a bounded system of interest (Stake, 1978). A case study approach was best suited to this study, as it provided the framework with which a contemporary phenomenon, ICT peer coaching programmes, could be examined. The ICT peer coaching programmes were an entity or bounded system, made up of processes and relationships and in examining the programmes, the researcher was seeking to develop an understanding of this phenomenon in a school context.

Eisenhardt (1989) writes that case studies can be used to provide description, test an existing theory or to generate a new theory and Yin (1994) also identifies case studies as being exploratory, descriptive and explanatory. Similarly, Stake (2005) describes intrinsic and instrumental case studies. In an intrinsic case study, the purpose is not to develop a theory or understand a broader phenomenon, but is one where the case, as an entity, is of interest to the researcher. In contrast, through an instrumental case study, the researcher seeks to develop understanding of an issue or reframe a generalisation and the case offers a means to this end. A collective case study is an instrumental study in which a number of cases are studied to investigate the one phenomenon.

This study was a collective case study, as three schools were used in the research. As shown in the literature review in Chapter 2, there is little research available on school-based ICT peer coaching programmes. A collective case study enabled the study of a phenomenon across multiple sites and therefore multiple realities. This case study presents a snapshot of each of the three schools, providing an overview of the demographics, strategic plans and programmes in place such as learning and teaching and the ICT peer coaching programme, followed by a cross-analysis of the data collected. In doing so, it fits within Stake’s (2005) categorisation as a collective case study, while also providing a thick description of ICT peer coaching through which a reader may find significance in the findings “that may have applicability in his or her own context or situation” (Lincoln & Guba, 1990, p. 57).

Multiple sources of data are required in case studies to develop a deep understanding of the entity being researched. Cresswell (1997) explains “a case study involves the widest array of data collection as the researcher attempts to build an in-depth picture of the case” (p. 123). Furthermore, Berg (2001) writes that “case study methods involve systematically gathering enough information about a particular person, social setting, event, or group to permit the researcher to effectively understand how it operates or functions” (p. 225). Sources of evidence can include such things as documents, interviews, participant and non-participant observation and artefacts (Burns, 2000).

The data was collected through semi-structured interviews (Patton, 2002), observations and an analysis of artefacts which included school policies and planning documentation. These various data sources, combined with a case study approach, enabled a rich, multi-layered understanding to gradually emerge, which highlighted the many facets of ICT peer coaching in a number of settings. Such an approach enabled investigation of the strategies in place in these three schools to develop and maintain their peer coaching strategy to support teachers in integrating ICT into the curriculum, as well as the relationships between peer coaches and learners. The in-depth study of the school-based ICT peer coaching programmes was able to demonstrate what is currently possible and what elements could possibly be transferable to other schools.

3.3.1 Sample Selection

Schools eligible to participate in the study were those which had an ICT peer coaching programme in place in 2007 and where the peer coach was working with at least two learners throughout the year. The schools were to be self-managing the ICT peer coaching programme and the programme was not part of any current programme available through the DEECD, Victoria. The schools were known to the researcher through her professional learning networks as a member of the eLearning unit in the Victorian Department of Education and Early Childhood Development (DEECD). The sample selection was therefore purposive (or judgemental) sampling (Patton, 2002). Purposive sampling is about “judgment of an expert in selecting cases, or it selects cases with a specific purpose in mind” (Nueman & Kreuger, 2003, p. 211). As Silverman (2000) writes, purposive sampling “demands that we think critically about the parameters of the population we are interested in and choose our sample case carefully on this basis”

(p. 104). Within this purposive sampling approach, a homogenous sample was selected so that data from a particular sub-group could be gathered (Patton, 2002). The homogenous group in this study was comprised of educators who had a connection with a school-based ICT peer coaching programme – the principals, ICT peer coaches and learners. Their connection gave these members similar experiences, which were analysed to provide understanding of ICT peer coaching.

The study explored the implementation of these programmes from the perspective of the school principal, the peer coach and two of their learners over a school year. It also explored the role of the peer coaching programme within the context of the professional learning strategies of the school and any connections with broader school and systemic initiatives and programmes.

The schools were initially identified informally through professional networks in which both peer coaches and the researcher were members. Informal phone contact was then made with the principal of each school to gauge initial interest in participating in the research. Once support to participate was verified, ICT peer coaches were then asked to identify two learners or coachees they would be working with during the year who might be interested in participating in the study. Formal letters of invitation were sent to principals, peer coaches and learners along with the necessary permission forms. The scheduling of interviews and/or pre- and post-observation sessions was arranged via email at times which were convenient for the principals (interviews only, Terms 1 and 4, 2007) and peer coaches and learners (Terms 1–4, 2007).

The three schools involved in the research included two primary schools and one secondary. A description of the schools is provided in Chapter 4. One of the primary schools was located in north-west Victoria, approximately 120 kilometres from Melbourne, while the other two schools were situated in the outer southern suburbs. The schools used for the study were chosen because it was “believed that understanding them will lead to better understanding, and perhaps better theorizing, about a still larger collection of cases” (Stake, 2005, p. 446). The schools used different approaches in establishing and supporting their ICT peer coaching programme and the programmes in each of the three schools targeted different needs and purposes. These differences added to the richness of the case study by demonstrating different ICT peer coaching models currently in place in Victorian schools.

All participation was voluntary. The names of the schools and all participants were coded to protect their identification and also for the purpose of data analysis. The codes are explained in Table 1.

Table 1: Participant Coding

	School 1	School 2	School 3
Principal	S1.P – School 1, Principal	S2.P – School 2, Principal	S3.P – School 3, Principal
Peer Coach	S1.PC – School 1, Peer Coach	S2.PC – School 2, Peer Coach	S3.PC – School 3, Peer Coach
Learner 1	S1.L1 – School 1, Learner 1	S2.L1 – School 2, Learner 1	S3.L1 – School 3, Learner 1
Learner 2	S1.L2 – School 1, Learner 2	S2.L2 – School 2, Learner 2	S3.L2 – School 3, Learner 2

3.4 Data Gathering Methods

The data gathering methods used for this study included semi-structured interviews in Terms 1 and 4, 2007 with the principals, ICT peer coaches and learners in each of the three schools. Non-participant observations took place in Terms 2 and 3, 2007 with the researcher observing the interactions between the ICT peer coach and his/her learners during their pre- and post-observation conferences. Artefacts were also collected during 2007. While these varied across the schools, they included such items as school Annual Implementation Plans, eLearning Plans, Professional Learning Plans, school/staff handbooks and documentation related to specific school initiatives and programmes. The data gathering methods are described in detail in the following sections.

3.4.1 Interviews

Interviewing is a powerful means of accessing information to help our understanding of people or situations (Minichiello, Aroni, Timewell & Alexander, 2000; Patton, 2002; Wengraf, 2001). This study used semi-structured interviews. Semi-structured interviews use topics in addition to set questions to collect data. They provide the interviewer with the flexibility of prompting the interviewee, asking additional questions around the topic to guide them to the key issues of the study (Burns, 2000; Minichiello, Aroni, Timewell, & Alexander, 2000). These follow-up or probing questions enable the researcher to dig deeper into the opinions, understandings and perceptions of the interviewee to gather rich data about the topic (Barriball & While, 1994; Patton, 2002). These may be used to seek

further details from the interviewee or to seek clarification. As such, the interview takes on the form of a conversation, in which both interviewer and interviewee can seek clarification and therefore develop their understanding. “These types of interviews are said to allow people to answer more on their own terms than the standardized interview permits, but still provide a greater structure for comparability over that of the focused interview” (May, 2001, p. 123). The semi-structured interviews could also be seen as in-depth interviews, as each subject in the study – principal, coach and learner – were interviewed face-to-face at the beginning and end of the school year, providing opportunity for greater understanding of the interviewee and the peer coaching process.

The topics for the principals’ interviews in Term 1, 2007 could loosely be grouped into four categories. The first sought information on the school setting, the demographics of both students and teachers, and the types of systemic and cluster initiatives and reforms that the school was involved in. The second focused on the Performance and Development Culture at the school. If the school had already been accredited, the focus was on what steps, if any, were in place to maintain the culture within the school. If the school had not attained accreditation by that point in time, the focus was on what steps were being put in place to support the school’s journey towards accreditation. The third category was the school’s ICT peer coaching programme – the roles, expectations and requirements of the peer coach, the selection process for peer coach(es) and learner(s), type and level of support, monitoring and evaluation of the programme and the programme’s role in the context of the school’s overall strategic planning, such as broader teacher professional learning and the Performance and Development Culture. The fourth category was the level of ICT infrastructure and resourcing available at the school.

The follow-up interview in Term 4, 2007 revisited these topics. In particular, the implementation of the ICT peer coaching programme throughout the year, the perceived benefits to peer coaches, learners and the school overall, were revisited and extended to include future plans for the programme in 2008 and any recommendations to other schools about establishing and maintaining an ICT peer coaching programme. Additional topics on any major changes that may have occurred at the school during the year, for example, changes in staffing, the introduction or expansion of any programmes,

initiatives or partnerships and any changes to the school's ongoing support for Performance and Development Culture, were also included in the Term 4 interviews.

Peer coaches and learners were also interviewed using an in-depth semi-structured approach. The Term 1, 2007 topics focused on their perceptions about their role – the challenges and expectations, benefits for themselves and the school as a whole, particularly in relation to supporting a Performance and Development Culture, and the elements of a successful coaching relationship were all included. The mechanisms in place to support the programme's implementation, evaluation and communication with each principal and staff were also focused upon. As with the principals' interviews, these topics were revisited in the Term 4, 2007 interviews. In addition, any changes which may have impacted on the implementation of the ICT peer coaching programme and any contribution to the school's Performance and Development Culture were included, along with any recommendations that could be made to the school about future ICT peer coaching, as well as general recommendations to schools about the implementation and value of an ICT peer coaching strategy (see Appendix 1 for interview topics).

The interviews were audio-recorded, with the consent of the principals, peer coaches and learners. This assisted the researcher to concentrate on the conversation as well as non-verbal cues, and also ensured the accuracy of the data collected. Interviews were then transcribed as part of the analysis process. Transcripts of their own interviews were sent to each interviewee to ensure the credibility of the data gathering processes. Interviews took place at Schools 2 and 3 during the course of a day at times that were convenient to the interviewees.

3.4.2 Observations

Observation was another data gathering technique used within the chosen methodology. "Observational data is directly related to typical behavioural situations – that is, people are seen in action" (Merriam & Simpson, 1984, p. 134). In participant observation, the researcher becomes "directly involved as a participant in peoples' daily lives" (Jorgensen, 1989, p. 20). However, in this study, the researcher was a non-participant observer, asking no questions and making no comments to either participant during the sessions. It is assumed that such naturalistic observation occurs almost as a detached, sterile activity, with no impact or influence on the people or activity being observed. However, Denzin

and Lincoln (2005) note: “All observation involves participation in the world being studied” (p. 643), as simply being present produces an artificial situation. Therefore, it is part of the researcher’s responsibility towards the integrity of the data to be as unobtrusive as possible, and as Angrosino and Mays de Perez (2003) note, maintain “rigorous standards of objective reporting” (p. 108).

The observations for this study took place at one pre- and post-observation conference between the ICT peer coach and two of his/her learners in Terms 2 and 3, 2007. The purpose of these observations was to collect data on the process and outcomes of the ICT peer coach/learner interaction. Data on the *process* included such elements as the structure of the conferences – who led the discussion, how was guidance provided, how was goal-setting facilitated, how were the learners’ needs clarified, etc. Data on the *outcomes* included elements such as skills development and insight into possible changes in practice. During these conferences the researcher took field notes. “In these fieldnotes, the researcher records, in an unstructured or semistructured (using some prior questions that the inquirer wants to know) way, activities at the research site” (Creswell, 2003, pp. 185–188). Descriptive observation was used by the researcher, in which all details of the sessions were described (Angrosino, 2005).

An observational protocol (Creswell, 2003) to record data was developed by the researcher to assist with consistent approaches across all sites (Appendix 2). The use of an observation protocol provided a guide or structure for the researcher, targeting her observations while also allowing her to pick up on additional data. In doing so, the researcher absorbs information from many sources (Adler & Adler, 1998; Bailey, 2007; Minichiello, Aroni, Timewell & Alexander, 2000; Neuman & Kreuger, 2003). The observation protocol included descriptive notes to capture such things as layout of the room, any access/use of technology, any interruptions to the session and body language of both peer coach and learner. Each section of the protocol was given an item number to assist with analysis. No debriefing between the researcher and the participants took place following the observation session, though in subsequent visits, participants were invited to look at the researcher’s field notes captured through the protocols. The pre- and post-conference observations took place at a time that was most convenient for the peer coaches and learners.

Table 2 shows the cycle of interviews and observations conducted at each of the schools involved during Terms 1–4, 2007.

Table 2. Interviews and Observations Cycles in Schools 1, 2 and 3

	Action
Term 1, 2007	Interviews <ul style="list-style-type: none"> • Interview with Principal • Interview with ICT Peer Coach • Interview with Learner 1 • Interview with Learner 2
Term 2, 2007	Observations Peer Coaching Cycle – Learner 1 <ul style="list-style-type: none"> • Pre-observation conference session • Post-observation conference session Cycle repeated for Learner 2
Term 3, 2007	Observations Peer Coaching Cycle – Learner 1 <ul style="list-style-type: none"> • Pre-observation conference session • Post-observation conference session • Cycle repeated for Learner 2
Term 4, 2007	Interviews <ul style="list-style-type: none"> • Interview with Principal • Interview with ICT Peer Coach • Interview with Learner 1 • Interview with Learner 2

3.4.3 Artefacts

Artefacts were collected from the schools to further build up an understanding of the school context in which the peer coaching programme operated and also to provide insight into the processes both peer coaches and learners put in place to support their partnership.

At the school level, documents such as the school’s strategic plan, professional learning plan, eLearning/technology plan were requested from the principal, as well as any documentation which outlined the school’s participation in major initiatives such as the *Performance and Development Culture* and the *Leading Schools Fund* included in the first *Blueprint for Government Schools* (Department of Education & Training, Victoria, 2003a).

Peer coaches and learners were also invited to submit any documentation they had developed to support the implementation of the peer coaching partnership. This included any resources developed by either the peer coach or learner to assist in planning or preparation for the peer coaching sessions, journals, meeting logs, etc.

The collection and analysis of these artefacts built up a picture of the governing policies and practices within the school. The level of detail, currency and programmes described were useful indicators of how current educational thinking and DEECD reforms were reflected at the school level.

Table 3. School Artefacts

School	Artefact	Source
S1	<ul style="list-style-type: none"> • ICT Peer Coaching Handbook 2007 • PD Manual • Parent Information Pack • Teacher Information Book 2007 • School Strategic Plan 2007–2010 • Professional Development Program 2007 • Annual Implementation Plan • Knowledge Bank Rich Picture Case Study 	<ul style="list-style-type: none"> • Provided • Provided • Provided • Provided • Provided • Downloaded from school website. Retrieved August 8, 2007 • Provided • Provided • Accessed from http://www.sofweb.vic.edu.au August 8, 2007 (full URL not shown to maintain school's anonymity).
S2	<ul style="list-style-type: none"> • Annual Implementation Plan 2007 • eLearning Plan • 2004 School Charter • Creating eLearning Leaders (CeLL) PD Program 2007 	<ul style="list-style-type: none"> • Provided • Provided • Downloaded from school website. Retrieved May 6, 2007. • Provided

	<ul style="list-style-type: none"> • CeLL report • Teacher Education Network Professional Development Network Program 2007 	<ul style="list-style-type: none"> • Provided • Downloaded from http://www.grampians.vic.edu.au/index.php?option=com_content&task=category&sectionid=23&id=210&Itemid=229. Retrieved August 8, 2007.
S3	<ul style="list-style-type: none"> • Annual Implementation Plan 2007 • eLearning Plan 2006 – 2009 • Staff Handbook 2007 • 2002 School Charter • Learning Policy, November 2003 • Teaching Policy, November 2003 • CeLL Expression of Interest [2003] • Leading Schools Fund Phase 3 Proposal 	<ul style="list-style-type: none"> • Provided • Provided • Provided • Downloaded from school website. Retrieved May 6, 2007 • Downloaded from school website. Retrieved May 6, 2007 • Downloaded from school website. Retrieved May 6, 2007 • Provided • Provided

3.4.4 Trustworthiness

Working within a qualitative, constructivist paradigm, researchers must consider the credibility and trustworthiness of their data. A collective case study approach was used for this study and one of the strengths of this approach is that data from various sources can be used. In doing so, the researcher has available multiple sources of evidence to “provide multiple measures of the same phenomenon” (Yin, 1994, p. 92). This triangulation of data strengthens the research findings by examining the data through multiple lenses and ensures consistency and accuracy of results (Maxwell, 1996; Neuman & Kreuger, 2003; Yin, 1994).

Participants were given the opportunity to review their individual interview transcripts for accuracy. This served as participant member checking, a process for checking the accuracy within qualitative case studies (Lincoln & Guba, 1985) and further strengthening the trustworthiness of the data.

3.5 Ethical Considerations

A strong, transparent ethical position, which clearly sets out the methodology about the type of data to be collected, from whom, where, when and how it will be used is an essential step. The rigorous ethical requirements of universities contribute greatly to this process. These processes and procedures were all closely followed by the researcher (Appendices 3–6). In systematically collecting data from principals, peer coaches and learners through repeated interviews, observation sessions and a wide range of artefacts, the researcher was able to investigate, analyse and interpret the data of each of the component parts and understand the different realities of the situations in each of the schools. This was done before drawing these realities together to identify common threads and the unique experiences and understandings which can contribute to the transferability of these understandings to other sites. It is the opinion of this researcher that this methodology of epistemology ensures the credibility and trustworthiness of the research.

The RMIT Human Research Ethics Sub-Committee (HRESC) approved this study and a copy of the formal approval is included (Appendix 3). In accordance with the ethics requirements of RMIT University, an RMIT Plain Language Statement (Appendix 6a, 6b, 6c) introducing the researcher and the purpose of the study were mailed to the principals, peer coaches and learners, accompanied by an RMIT Prescribed Consent Form (Appendix 4). The RMIT *Prescribed Consent Form* included the seeking of permission for the interviews and pre- and post-observation sessions to be audio-taped to assist the researcher in developing accurate transcripts. A contact email address was included in the *Plain Language Statement* should any of the participants have required further information.

As the research took place in government schools, a formal request was put to the Department of Education & Training, Victoria, (which changed its name to Department of Education and Early Childhood Development in 2007), outlining the purpose of the study and the methodology to be used. Approval to undertake research in government schools was given and this letter is included (Appendix 5). A courtesy letter to the Victorian Department of Education & Training Regional Directors of the schools' regions informing them of the study, was also sent.

All participation was voluntary. Pseudonyms were used to protect the identity of the schools, principals, peer coaches and learners and all interaction with principals, peer coaches and learners was treated confidentially. Participants were given the right to withdraw from the study at any time, removing their unprocessed data from the study. All data was kept in a secure location, treated as confidential and used for no other purpose than the research study.

3.6 Inductive Data Analysis

Patton (2002) writes: “Inductive analysis begins with specific observations and builds toward general patterns. Categories or dimensions of analysis emerge from open-ended observations as the inquirer comes to understand patterns that exist in the phenomenon being investigated” (pp. 55–56). Within the qualitative, constructivist paradigm in which this research is framed, an inductive analysis of the data enabled the researcher to identify the themes or patterns across the ICT peer coaching programmes in the three schools used for this study. By collecting and analysing data about the roles, processes, mechanisms and interactions the participants in an ICT peer coaching programme, the researcher developed an understanding of the routines, strengths and issues of that social reality. Through inductive data analysis, the researcher learned from the participants, drawing their story together as the data was analysed.

In conducting research within the school’s own setting, the data collected created insight into the educational ethnography, the educational processes and structures that have shaped the schools involved (Krueger, 1987; Massey, 1998; Spindler, 1992). It enabled the researcher to move “from what is heard or observed to what is actually meant” (Neuman & Kreuger, 2003, p. 359). The combination of interviews, observations and artefacts also enabled a ‘thick description’ (Cresswell, 1997; Neuman & Kreuger, 2003) of the cases developed, where a detailed description of the schools, the interactions of coaches and learners and the role of ICT peer coaching in the overall school context could be described.

Minichiello, Aroni, Timewell and Alexander (2000) write “data analysis includes both a mechanical and an interpretative phase” (p. 215) and this researcher indeed found it to be the case. Data was first colour-coded, a process which organised the multiplicity of data

into manageable chunks. These chunks could be words, phrases or whole sentences. Initially it was done manually, with the research questions providing a guide to the early coding process; other codes were added as they were needed. This early stage of the coding process was about reducing the data to make it easier to retrieve and was not about “chunking up” data into themes or concepts. Once the initial manual coding phase was completed, the researcher then used a Computer Assisted Qualitative Data Analysis System (CAQDAS), NVivo 7 (QSR 2007), to complete the coding process. Through the use of this software package, the researcher felt she was able to code and manage the data more efficiently, particularly when she started coding the artefacts. NVivo 7, developed in Australia by QSR, does not perform analysis of data but facilitates strategies for the organisation, reduction and retrieval of data and proved to be a more efficient process than manual coding in this mechanical phase. Transcripts from the interviews and observation sessions and school artefacts were imported into NVivo. Electronic coding using NVivo’s free nodes were created to help organise the data, with the initial colour coding providing a guide to the process. Free nodes are not relational, but help the researcher to “capture ideas without imposing any structure on those ideas” (Bazeley, 2007, p. 32). Additional free nodes were added throughout the process. The coding was also not a linear process. Data was re-visited many times during the coding phase as new themes emerged. Data was re-coded and assigned more than one code.

NVivo 7 also facilitated memo-ing throughout the coding stage. Bailey (2007) describes memo-ing as “essentially the writing of memos to oneself regarding insight one derives from coding and reflecting on the data” (p. 133) and this assisted in the analysis – or interpretative stage of the research. Data was coded for each individual site. Table 4 demonstrates a selection of codes and their sources as used for this process.

Table 4. Sample Coding and Description Created in NVivo 7

Quote	Code	Code Description
And we’re really looking into how best we can help staff develop their ICT skills, making sure that they’re integrating ICT into the curriculum rather than just doing it as a stand-alone.	ICTsk	ICT skills
	Ped	Pedagogy
So probably coming in, seeing their response perhaps to the program if they’re interested in that media?	T&L	Teaching and learning
Coaching is about a partnership approach to learning where the coach acts to support other	Prog	Peer coaching program

teachers in identifying their own solutions and a commitment to action.	Rel	Peer coaching relationship
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Analysis of the data from the principals', peer coaches' and learners' interviews, observation sessions and the collection of artefacts was interpreted through themes, connections and commonalities that were found in the data (Silverman, 2000). This categorisation supported the understanding of the characteristics and processes involved in ICT peer coaching, which were in place at each of the schools. In writing up the analysis, further codes were used, as shown in Table 5.

Table 5. Sample Coding and Description Used for Analysis

Code	Code Description
Pre2	Pre-observation Conference, Term 2, 2007
Pre3	Pre-observation Conference, Term 3, 2007
Post2	Post-observation Conference, Term 2 2007
Post3	Post-observation Conference, Term 3, 2007
OP	Observation Protocol
L	Line number(s)
A	Artefact
P	Page number

3.7 Project

The findings of this study were used to inform the structure of the *teacher2teacher: Peer Coaching for ICT* wiki. As a Web 2.0 technology, the researcher believed a wiki format to be appropriate for the project component of this study. The functionality of a wiki enables new content to be posted, edits to be made and images, video and sound files to be added easily. At a basic level, it requires a range of ICT skills in order to be an active member of the wiki community. At a higher level, the collaborative feature of a wiki enables anyone to be an author and editor, potentially an active participant of a global community and contributor to a body of knowledge.

The *teacher2teacher: Peer Coaching for ICT* wiki has been created using Wikispaces tool (<http://www.wikispaces.com/>). There are many wiki tools freely available on the internet. The researcher had used Wikispaces for a number of years for many education-related wikis and found it to be a safe and reliable wiki site and is also free of advertisements.

3.8 Summary

This chapter examined the research design upon which the study was based. A qualitative, constructivist paradigm was chosen for this study as it enabled the researcher to construct understandings based on the unique culture and contexts in which each of the schools operated. A collective case study was used, through which data from interviews, observations and artefacts were collected, enabling the triangulation of data to enhance the credibility of the interpretation. Data analysis was through both manual processes and the use of the NVivo 7 program, which further added rigour to the process.

Chapter 4 discusses the findings from the three schools. It provides a snapshot of each as well as an analysis of the data, which presents the ways in which they implemented their ICT peer coaching programmes, the benefits and challenges of implementing such a programme in a school and links with Performance and Development Culture (Department of Education & Training, Victoria, 2003a), one of the education reforms in Victoria. Chapter 4 also provides an overview of the project component of this study, the *teacher2teacher: Peer Coaching for ICT* wiki, its purpose and an introduction to its content.

Chapter 4

Results and Discussion

4.1 Introduction

An increasingly technological world requires students to be skilled and discerning users of Information and Communication Technologies (ICT). Teachers too, need to be skilled users of ICT as well as having pedagogical skills which will enable them to maximise the potential of the technology to support student learning. Professional learning that supports ICT skill development as well as pedagogical change, that is focused on classroom practice and is ongoing, is needed by classroom teachers to meet these challenges. Chapter 2 of this study examined teacher professional learning, ICT in education and the need for research into ICT peer coaching as one potential strategy to support teachers' use of ICT in the classroom. Chapter 3 presented the methodology used in the research – a qualitative, constructivist paradigm.

Chapter 4 describes the context of the study and presents a collective case study from the three participating schools. Data was collected through interviews with the principals, ICT peer coaches and two of their learners, through researcher observation of peer coaches and learners, and through artefacts such as strategic plans, professional development programmes. The data was analysed to understand the role of an ICT peer coaching programme as it relates to teachers' integration of ICT.

This study examined the key question: "Does peer coaching as a professional learning strategy support teachers' integration of Information and Communication Technology (ICT) into their learning and teaching programmes?" The sub-questions were:

- What are the key elements of an ICT peer coaching programme?
 - What is the main focus of the peer coaching partnership?
 - What are the essential characteristics required for a successful peer coach/learner relationship?
 - What classroom scheduling is required for a successful peer coaching programme?

- Do peer coaches make a difference to teachers' growth in ICT skills and pedagogy?
- How could ICT peer coaching support other initiatives or reforms at the whole school level and in particular, the school's Performance and Development Culture accreditation process?
- What is the role of the school principal in supporting ICT peer coaching to maximise benefits?
- Is there a role for the system in supporting ICT peer coaching to build teacher capacity?

4.2 School 1

School 1 is a primary school located in an outer Melbourne suburb, established in 2005. Because of its geographic location, the school has a clearly delineated community, bounded by a railway line, freeway and highway. The school commenced with an enrolment of 172 students and this had grown to 435 in 2007. The projected enrolment for 2008 was for approximately 550 students. The school has a multicultural community, including students of Sri Lankan, Indian, Pakistan and Afghani backgrounds. Students are drawn from the immediate area and most teachers also live nearby (S1.P.I1). Approximately 23 per cent of students are from families who receive an Educational Maintenance Allowance, a financial payment from the state government for low income families aimed at supporting them to meet the cost of their child's/children's education (S1.A3).

Being a fairly new school, the buildings are modern and of open plan design and include a purpose-built art room, library, a resource centre which doubles as a computer lab, and a full-sized gymnasium, which also doubles as a Performing Arts Centre. There are break-out areas immediately outside many of the classrooms. Two of these spaces are set up with computers. There are large landscaped grounds, play equipment, covered walkways and shaded areas for the students to play in, as well as an Outdoor Environmental Learning Centre (S1.A1; S1.P.I1). "School buildings are designed so that it encourages a very flexible learning environment, with various learning locations throughout the school, so that it's not a closed box in regard to classrooms"

(S1.P.II.L25–28). All classrooms have between two and four computers. Late in 2007, work began on developing a school oval, which would also be shared with the broader community. A pavilion was also to be included as part of this development, which was to include a multimedia centre but further details were not available at the time of data collection (S1.PC.I4).

In 2007 when this research study was undertaken, the majority of teachers had less than five years teaching experience, with four new graduates joining the staff in 2007. In addition, there were “at least a dozen teachers still in the graduate class, one in the experienced teacher category; another ten accomplished, four leading teachers, two of whom will be on maternity leave during the year” (S1.P.II.L42–45).

In 2007 School 1 ran 19 classrooms. The year levels were a mix of straight classes for Years Prep, 1, 2, 5 and 6, with composite classes operating for Years 3 and 4. The principal, assistant principal, Curriculum Leader and Welfare Coordinator were all in non-teaching roles. Support staff included two teacher aides, two integration aides and a library technician (S1.A2).

4.2.1 Learning and Teaching Programmes

School 1 offers specialist programmes in the areas of Art, Physical Education and Outdoor Education, Music and Languages Other Than English (Auslan, which is a LOTE in Victorian education). The school also has a teacher in the role of Reading Recovery tutor who supports teachers in the use of ICT, as well as a Literacy Specialist (S1.A2).

In addition to school-based learning and teaching programmes developed to support the implementation of the Victorian Essential Learning Standards (VELS), the school offers programmes such as Drug Education, Bike Education, Environmental Science and swimming (S1.A1).

School 1 was involved in the Innovations and Excellence Cluster initiative which ended at the end of 2007. This initiative supported primary and secondary schools to work together to deliver innovation and excellence in education programmes in the middle years of schooling. Clusters were provided with funding for professional learning and to fund the employment of a cluster educator. The Cluster to which School 1 belonged had a focus on engagement, literacy, numeracy and welfare.

The Literacy Support Programme was introduced at the school in 2007 as part of the Victorian Department of Education and Early Childhood Development's (DEECD) Literacy Specialists Programme. Teachers from Years 3–6 at School 1 were involved "... working with the literacy support designated person from the region. So that's going to be great this year because that's a facilitator working with teachers and looking into the teaching process" (S1.P.II.L71–73). The programme also offered the school the opportunity to continue a strong focus on literacy once the Innovations and Excellence initiative had ended.

During 2007, School 1 was selected to take part in the *Next Practice Design Teams Project Pilot*, developed by DEECD's Next Practice and Innovations Division (Department of Education and Early Childhood Development, Victoria, 2006a). The year-long pilot aimed to identify innovative practice currently happening in Victorian government schools, and by bringing those schools together with experts and researchers in the field, to effectively capture the model and share it with the broader educational community. The first round of the pilot focused on the two areas of Pedagogy/Space and Literacy, with School 1 falling into the latter category and focusing specifically on the area of Digital Literacy. As part of the professional learning opportunities for teachers and principals involved, a tour of two leading schools in Christchurch, New Zealand was arranged and attended by two staff members from the school.

4.3 School 2

School 2, also a primary school, is located approximately 100 kilometres from Melbourne, in a township of approximately 3000. The original school was established in the 1870s. The school building has been refurbished and new buildings which complement the original design have been added. The school has two annex sites, located in two nearby towns. The teachers from these sites attend staff meetings and professional learning meetings at the main school site.

The students are from varied socio-economic backgrounds. There is a number of families who receive the Education Maintenance Allowance. The school has only a small handful of students who were not born in Australia but none of these students are of a Non-English-Speaking Background (S2.P.I1). The school's enrolment in 2007 was 300 students and the school anticipated maintaining that enrolment for 2008.

In 2007 School 2 had thirteen classroom teaching staff. The current principal was appointed to the school in Term 4, 2006 and prior to his appointment there had been three acting principals in the role (S2.P.I1) in two years. The classes were all straight year levels, apart from the Prep/Year 1 classes, which were composite. This was necessary because of low Prep enrolment numbers. Classroom teachers took their own classes for Library and Physical Education and there was no ICT specialist. There was one assistant principal in the school, who was in a non-teaching role and had a focus on Student Welfare and Reading Recovery. In addition to the classroom and specialist teachers, other staff included office support, a library technician and an annexe support teacher. The majority of the teaching staff was in the highly experienced category and there were only two graduate teachers at the school.

4.3.1 Learning and Teaching Programmes

The priorities reflected in School 2's Annual Implementation Plan for 2007 included a whole school approach to Social Competencies, enhanced teaching and learning with particular focus on literacy and numeracy and developing a Performance and Development Culture (S2.A1). The school had three specialist teachers in the areas of Art and Performing Arts (which had a Music/Drama focus) and Languages Other Than English (LOTE) – Italian. The LOTE teacher also provided classes to students at the annexes.

School 2 had participated in the *Creating eLearning Leaders* (CeLL) initiative, described in Chapter 2, from 2004–2007, with a team of four teachers leading the initiative across the whole school. In applying to be part of the CeLL initiative, School 2 stated:

Geographically central to other smaller schools in our area, we are keen to continue to build a strong collegial relationship with surrounding schools ... In order to build a dynamic professional learning community we would also develop and then share results of action research into how to best

integrate ICT within the classroom. We would be keen to make any teacher resources created available for other teachers.

(S2.A2.p. 4)

As a CeLL school, ICT professional learning had a high priority. The CeLL team at the school delivered a range of ICT professional learning to the staff both formally and informally, as well as offering ICT professional learning workshops such as on using Microsoft's PhotoStory to teachers beyond their own school. ICT was included as a regular focus for weekly professional learning meetings and was facilitated by members of the CeLL team. This team had also introduced the use of digital portfolios as a strategy for student assessment in Years 3–6 and played a key role in supporting teachers and students in their development.

School 2 was part of the original Innovations and Excellence Cluster which had been established for five years, with a focus on Literacy and was supported by a Cluster Educator (S1.P.II).

4.4 School 3

School 3 is a large secondary college located in an outer suburb of Melbourne. It is a rapidly developing suburb with large new housing estates replacing farming land.

School 3 caters for students from Years 7–12. It was first opened in 2002 with a Year 7 intake of students, introducing a new year level in each subsequent year. Consequently, 2007 was the first year for Year 12 students. There were 1600 students enrolled at the school in 2007, with 150 staff members. Projected enrolment for 2008 was around 1700 students (S3.P.II).

As with School 1, teachers at School 3 represent a wide range of experience and number of years of teaching. “We have employed 20 graduates over the past two years. There is a large percentage who have been teaching for between 12–15 years ... we have a good balance of knowledge and experience” (S3.P.II.L29–44).

In 2007 when this study was undertaken, the students attending School 3 were mostly of Anglo-Saxon backgrounds. Thirty-five per cent of students were on Education Maintenance Allowances. There had been a gradual growth in students from Sri Lanka and Malaysia over

the previous eighteen months, though the school had few students for whom English was their second language (S3.P.I1).

School 3's organisation in 2007 included a Principal Team, Advisory Groups, Coordinators, a Leading Teacher Team and Sub-school Leaders (S3.A1, p. 36). The Principal Team was made up of the principal and three co-principals. Each co-principal was responsible for specific areas and these included Later Years/Curriculum Planning, Middle Years/College Operations and Staff Development (S3.A1). One of the Coordinators was a designated eLearning Coordinator.

4.4.1 Learning and Teaching Programmes

In 2007, curriculum units for students in Years 7 and 8 in School 3 were interdisciplinary, were of a term's duration and required students to participate in the production of an end product.

Year 9 students participated in the Global Journey Programme which had a strong focus on student engagement, hands-on curriculum and learning beyond the school. "Each journey is a term in length and designed to involve students in the college community, provide an authentic, stimulating and enjoyable learning experience that will strengthen their motivation and desire to complete their secondary education" (S3.A2.Overview, n.p.).

Students in Years 10–12 took part in the Later Years Programme. During this time students could undertake studies as part of the Victorian Certificate of Education (VCE), Vocational Education and Training (VET) in VCE and Victorian Certificate of Applied Learning (VCAL). Students at this level also participated in a Work Experience programme and completed a basic Occupational Health and Safety training programme as part of the Careers programme.

School 3, as with School 2, had also been a CeLL school. In the overview of its CeLL application, it stated:

The utilisation of eLearning as a vehicle to drive profound pedagogical change and to facilitate students' development as future learners is a priority. To achieve this we are exploring new technology options to create a ubiquitous electronic infrastructure.

School 3 highlighted a number of innovative learning approaches in its CeLL application, including a “web-based Interactive Multimedia Learning Environment (IMLE) project designed for use in teaching statistical analysis” (S3.A2.p.1) and an online resource developed through its Environment Club for information on local wildlife to which students contributed (S3.A2). A comprehensive school-based professional learning programme and the school’s existing levels of ICT infrastructure and resources were also highlighted.

School 3 had participated in the Leading Schools Fund. The Leading Schools Fund was a key strategy identified in the first *Blueprint for Government Schools* (Department of Education & Training, Victoria, 2003a) and was described in Chapter 2. The focus of School 3’s Leading Schools Fund application was “school transformation through a teacher and student coaching programme, ignited by a dynamic teaching and learning community” (S3.A3, p.1). Curriculum reform, targeted teacher effectiveness supported by coaches and improved student data in numeracy, literacy, engagement and connectedness were identified as the outcomes. The school was successful in 2005 in its application and was granted \$550,000 over three years.

4.5 School Strategic Plans, ICT Infrastructure and Professional Learning

Having provided a brief snapshot of the three schools in the study, the following section draws together further information about the schools in three key areas – school strategic planning, ICT infrastructure and professional learning. While all areas of the schools’ environments provided the context for their ICT peer coaching programmes, these three elements are potentially the major influences on the implementation of ICT peer coaching. A closer investigation of these areas described briefly below, helps build up a picture of the role of ICT in the learning and teaching programmes in the schools and whether ICT itself was seen as a priority.

At the time of the study (2007), Victorian government schools were required to develop a four-year Strategic Plan once their School Charter, the previous mandatory school planning requirement, had ended. The Strategic Plan was to outline the school’s direction including the school’s “purpose, values and environmental context, as well as goals,

targets and key improvement strategies in three student outcome areas: student learning, student engagement and wellbeing and student pathways and transitions” (Department of Education and Early Childhood Development, Victoria, 2006b, p. 3). An Annual Implementation Plan was then developed which describes how major projects will take place over the four-year period.

The infrastructure encompasses not only the number of computers, but elements such as technical support, location of technologies across the school, internet access and the cycle for updates or increase to technology access. As such, the level of infrastructure can provide an indication for the level of ICT access and support available to teachers and students and therefore its potential for use in classroom programmes.

Professional learning is a further potential indicator of the school’s readiness to support ICT peer coaching. How often formal professional learning takes place in the school, its scheduling, whether staff have a choice about what type of professional learning they attend and how the professional learning supports the school’s strategic goals all contribute to the professional learning culture of the school. The readiness and willingness of staff to embrace ICT peer coaching could be affected by how well professional learning has been valued and supported in the school in the past.

4.5.1 School Strategic Planning

As School 1 had only been opened since 2005, it had identified a number of key aims, included in its Strategic Plan (S1.A3), to help lay the foundations for a strong learning and community-linked culture. The aims included:

- To create a culture where school & [sic] community worked as one
- Create a culture of “socially competent” students
- To develop an engaging curriculum
- To achieve low student absence
- The development of cohesion among staff – a shared vision
- To establish tradition – positive community culture and school identity
- The development of a good reputation among the community
- Connectedness – involving parents, students, wider community.

(S1.A3, p.3)

The Student Learning goal identified in School 1’s Annual Implementation Plan was “To gain an in-depth knowledge of each child, to add value in their achievement and support

them in their overall educational growth” (S1.A3, p. 4), with targets including improvements in reading, writing and mathematics data.

School 2 strove for excellence in education and aimed to achieve this through an inquiry-based, constructivist and collaborative learning environment. Fostering communication, self-responsibility and qualities of human development such as attitudes, beliefs and ethical values, were other valued elements of the learning environment (S2.A6). The school had not yet developed a Strategic Plan in 2007, as it was in the final year of its School Charter. The curriculum goals identified in the Charter included improvement in the overall achievement of students in the areas of literacy and numeracy for lower achieving students and reducing the number of students who were below their expected curriculum level (S2.A6).

School 3 had a detailed philosophy of education which encompassed its vision, guiding principles and values and which was described in the school’s annual Staff Handbook (S3.A1). The School 3 staff vision for students was based on three tenets: growth, knowledge and wisdom. It aimed to achieve this vision through the provision of innovative and diverse programmes which focused on the students’ physical, emotional and intellectual growth and through authentic learning opportunities.

The school’s philosophy was based on a holistic approach to education in which technology, the environment and relationships were central to preparing students for major areas of change in the future. These key areas were then supported by six Essential Outcomes for students to work towards as a way of empowering them to deal with challenges in the future. The Essential Outcomes included identity, action, learning, communication, questioning and experience. While links from these Essential Outcomes could be made to the curriculum through VELs, they were also about supporting students to develop qualities, habits and understandings as individuals finding their own place in the world. School 3’s Guiding Principles also outlined its beliefs around student learning and the role of the school community – students, teachers, parents and other key stakeholders – in achieving the school’s vision.

Together, the Essential Outcomes and Guiding Principles reflected some common themes which appeared elsewhere in the school’s programmes, such as the importance of preparing students to be global citizens and reflective thinkers, to have twenty-first

century skills such as technological literacy, critical thinking and problem-solving skills (S3.A1). The Annual Implementation Plan for School 3 stated the improvement of student learning outcomes as its Student Learning goal with targets including improvements in student data in Years 7 and 9 in English and Mathematics and an 80 per cent completion rate for students in VCAL or VET programmes (S3.A5).

As can be seen at this stage, none of the strategic plans of the schools participating in the study had a specific focus on ICT, nor singled out ICT as a key strategy for supporting student learning. This is despite eLearning resources available through DEECD to support the integration of ICT in learning and teaching as described in Chapter 2.

4.5.2 ICT Infrastructure

During their interviews in Terms 1 and 4, 2007, all three principals highlighted the significant investment their schools had made to develop their ICT infrastructure, as well as their ongoing plans.

School 1 Principal

We're putting nine interactive white boards into the school. All grades have access to our resource centre from a bank of thirty computers. We have the typical infrastructure of wireless communication throughout the school. There are learning, I call them break-out areas, where there's computers put out in these break-out learning centres in the schools. All classrooms have computers in their grade, varying from two to four computers. And in the future we are looking at trying to get a laptop programme established throughout the school as well. So the infrastructure is building up, and it'll be a key component, whenever we are doing any, as we are growing to make sure we are maintaining the correct infrastructure.

(S1.P.I1.L235–244)

School 2 Principal

Infrastructure, we've just strengthened. So we've strengthened our technical component of server and capacities. We have got a technician in place. We have a staff member who is responsible for overseeing the technical component. They've got a budget, they've reviewed the technical components each year and they've kept a handle on it so there's a cycle of turnover, so they're well placed.

(S2.P.I1.L174–179)

School 3 Principal

With the extra funding that has been allocated this year, in four weeks we will have a student to computer ratio of 5 : 1, 25 datashow projectors and

an interactive whiteboard in each learning community. The intranet is used widely across the school and all staff use their laptops widely. I hope that parents will have access to the intranet by mid-year.

(S3.P.I1.L132–137)

School 3 had also allocated \$350,000 on eLearning resources in 2007 (S3.P.I1.L26).

Both Schools 1 and 2 had applied successfully for federal government grants in 2006–07 through the *Investing in Our Schools* programme, aimed at updating, replacing or installing new equipment identified by the school. This programme ceased in 2008 (Department of Education, Employment and Workplace Relations, Australia, n.d.).

School 1 used the funding to install interactive whiteboards and each whiteboard was to have its own datashow projector (S1.P.I1). Audio equipment, blue and green screens (for use in multimedia productions) and specialised cameras were also purchased during 2007, as were Apple Mac computers – the school had previously run only PC computers (S1.P.I2). The principal of School 1 was able to further supplement the school's computer numbers through an arrangement with the local Tertiary and Further Education (TAFE) institute, through which the school would be given the TAFE's older (three-year-old) computers as they were rolled over. Over 40 computers had so far been obtained by the school through this relationship (S1.P.I1).

School 2 also included the introduction of interactive whiteboards, as well as the introduction of a class set of laptops, as the focus for its *Investing in Our Schools* grant application.

Many of our computers are over five years old and need updating. The introduction of laptops will enhance access for students and the introduction of interactive whiteboards, will all enhance our ICT facilities. The limited access to computers impacts of [sic] student wellbeing as they are keen and eager to utilise ICT in their learning. The introduction of laptops would improve access and encourage cooperative learning in small groups. Interactive whiteboards require cooperation and team work in order to be fully successful.

(S2.A3.p.2)

School 3 continued to improve its infrastructure during 2007, despite some issues. One was in relation to extending its wireless capability throughout the school, problematic due to the number of relocatable classrooms. As the principal commented “relocatables are not the very best for wireless because they have too much metal in the roofing and so we had to reconfigure our wireless, which we have done and done very successfully”

(S3.P.I2.L180–L182). Another difficulty was its rapidly increasing student enrolment, 1530 in 2007 with the projected enrolment for 2008 around 1700 (S3.P.I2), making it difficult for the school to maintain its desired 5: 1 computer-to-student ratio.

Interestingly, however, the principal of School 3 was the only one of the three principals to discuss the future introduction of the Ultranet, a key DEECD initiative described in Chapter 2, and its potential impact at the school level, perhaps an indication of this principal's capacity to look more broadly at future programmes and plan for their potential impact on the school.

... it's all in line with what I think the Department is trying to do in the next six months – what is where, where are the passwords, who has control over them, and it's all been very well documented. So the framework or the family tree of all our computers etc ... it's now available on paper and that's come about simply because of the growth and we just couldn't expand exponentially without knowing how the family tree all fits together. So that's been as far as the infrastructure is concerned, documenting that information is very valuable.

(S3.P.I2.L187–L194)

4.5.3 eLearning Plans

Given the ongoing investment by the DEECD and schools in general, it is interesting to note the range of formal planning specifically around the area of ICT /eLearning demonstrated by the three schools. School 1 did not have an eLearning plan. A description of computers and peripherals available for student and staff use and the school's access to the internet and intranet were briefly described in the school's Teacher Information Book (S1.A1). An Internet Appropriate Use form, to be filled out by students and/or their parents/guardians, was also included.

School 2 had an eLearning plan in place for 2006–08 and this had been a requirement as part of its participation in the CeLL initiative. The mission statement read “[School 2] envisages an environment where the use of information and communication technology (ICT) is regarded as an integral part of our everyday teaching and learning practices and administration management” (S2.A4, p. 1). The plan, based on an early version of the DEECD's eLearning Planning Guide (Department of Education and Early Childhood Development, Victoria, 2008d), clearly identified the school's current practice, identified targets for improved practice and strategies for development for the key areas of ICT Leadership, Student ICT Capability, Teaching, Learning, Assessment and Reporting, ICT

Professional Learning, Learning Places and Spaces and Learning Communities. The ICT Professional Learning section included one statement which read “Staff will develop case studies of their innovations via the Peer Coaching model” (S2.A4, p. 3), but no further details were included. The eLearning Plan also included an IT Infrastructure Plan, covering maintenance and expansion of existing ICT resources and technical support however, this did not reflect the projected growth in resources as a result of the *Investing in Our Schools* grant.

School 3 had a current eLearning Plan 2006–09 (S3.A4), which had been revised in December 2006. The eLearning Plan contained a high level of detail, including information and templates on such elements as Student Internet Acceptable User Policy, budget information, technical support and procedures for such things as booking ICT equipment, reporting technical problems, managing student accounts and passwords and requests for ICT hardware and software. Most importantly perhaps was that the plan was contextualised within a range of research findings which highlighted the role technology played in the social lives of young people as well as in their education. This section set the scene for linking to the school’s own eLearning vision, echoing the thrust of the school’s educational philosophy.

Our College will be proactive in its strategic role in encouraging students to become autonomous learners We foresee a College Community in which elearning and information and communications technology (ICT) are blended within the routines and activities of all students and all staff. They will be interacting with each other, engaging in curriculum planning through networking with their colleagues locally and globally ...

(S3.A4, p. 5)

School 3’s eLearning Plan was also directly linked to learning and teaching, specifically highlighting the Information and Communications Technology domain and the dimensions of Communication, Design, Creativity and Technology and Thinking Processes of VELS, and so it was a plan that was as much about teaching and learning with ICT as it was about the use and management of ICT in the school. This is significant as it reinforced the school’s beliefs about the role of ICT in student learning. The eLearning Plan was not merely a plan of what technology was available in the school, where it was and how it was maintained; it was also about how it supported classroom practice and student learning.

The eLearning Plan included a section on coaching, describing the types of support offered by the eLearning/ICT peer coach. This included a formal coaching partnership, using the cycle of pre-observation, observation and post-observation conferences. The coach was also available to support teachers by working with small groups of students on ICT skills development and by working in the classroom to deliver professional learning directly to both teachers and students, specifically using interactive whiteboards and graphic tablets which were a recent introduction to the school.

The eLearning Plan identified a range of data that was to be used to inform future planning, such as annual data from the *ePotential ICT Teacher Capabilities* tool, student feedback, teacher surveys and action research projects. This level of detail contributed to the plan being a practical document which complemented the school's strategic plan and set a clear framework by which teachers could work towards the vision and guiding principles it presented.

4.5.4 Professional Learning

School 1 had developed a Professional Development Manual (S1.A5), which provided information and resources for teachers to use to identify their professional learning needs and develop their individual development plan. This would then be part of their annual performance review process. The manual was linked back to the school's Strategic Plan and, in doing so, provided teachers with a connection between their professional growth and the main goals of the school. For example, one resource included in the manual was a 'Personal Professional Development Planner' (S1.A5, n.p.), which identified school and DEECD priorities as well as general areas such as teaching skills, leadership, student welfare and classroom management from which teachers could identify their area(s) of need. Performance and Development Culture was one of the listed school priorities and peer coaching as an element within this initiative. School 1 had also developed a yearly professional learning schedule (S1.A6) for 2007. The majority of the schedule focused on literacy and numeracy related topics – again linked back to the school's strategic goals – as well as teaching approaches and social competencies. These sessions generally took place each week before school between 8.00–8.30 am.

School 1 had successfully applied for a grant in 2006/07 as part of the then Victorian Department of Education & Training's Teacher Professional Leave (2003c) to support

the introduction of an ICT Peer Coaching programme. The final report submitted by the school on completion of the funding stated that “staff are more confident in using ICT, both personally and within the school. A collaborative, professional working environment has been created through the sharing of professional learning” (S1.A7, n.p.).

Similar to School 1, School 3 included a section on staff professional learning in the Staff Handbook 2007 (S3.A1) where the purpose and expectation of the professional learning programme was outlined. The programme was based on *Professional Learning in Effective Schools: The Seven Principles of Highly Effective Professional Learning* (Department of Education & Training, Victoria, 2005) and was designed to “maintain and further develop our culture of Performance and Development” (S3.A1, p. 131). The school had both a mentoring and coaching programme in place and each staff member was allocated a mentor and/or a coach to support their teaching and learning. As noted earlier, professional learning was included in the school’s meeting structure. Fortnightly professional learning meetings were mandated for all staff, with optional sessions also being on offer.

To further support teacher professional learning, School 3 offered Professional Development Fellowships, valued up to \$2,000, for one or more staff members per year to access professional learning programmes. The funds could be used to attend a conference or complete a course or programme, but could also be used to invite national or international educators to the school to provide professional learning opportunities for the staff overall (S3.A1).

School 3’s eLearning plan (S3.A4) included a section on “professional learning initiatives and coaching” and these made links between professional learning programmes at the school with those of DEECD, such as *CeLL*, *Leading Schools Fund* and the *Intel Teach to the Future* programme (later called *Intel Teach*).

Professional learning had a high priority in School 2, which grew from its role as a CeLL school “We are very fortunate as you know to have a CeLL team and with that commitment we have a commitment to the integration of ICT ... we have an ongoing commitment to professional development and of course CeLL are heading that up” (S2.P.II.L31–37). Each staff member was required to complete a professional development plan, in which goals were required to be aligned to the three priorities

identified in the Annual Implementation Plan; personal professional development priorities could also be identified. Each staff member completed the *ePotential ICT Teacher Capabilities* survey at the beginning of 2007 and data from this could then be used to inform the development of their plan. The school was also a member of the Teacher Education Network (TEN), a professional learning programme coordinated by the regional office to which interested schools subscribed (S1.P.I1). Professional learning ranging from all VELS domains, areas such as Assessment, First Aid, Wellbeing as well as whole school focus areas such as social skills' development and communication skills, were available.

School 2 had also successfully applied for a Teacher Professional Leave grant in Term 3, 2007, which would be implemented in 2008. The focus of the proposal was "the continued development of the effective use of ICT across the school that was begun as part of the CeLL initiative" (S2.A5, n.p.). The delivery of the Intel Teach Essentials Online course, a hybrid face-to-face and online professional learning programme, was a central feature of the application.

The three schools involved in this study provided some interesting contrasts in terms of size, location, years of establishment and participation in centrally provided initiatives and programmes. There were also key similarities between the schools. Comparing the ways in which other plans such as eLearning and Professional Learning Plans reflected the values, goals and intent of the Strategic Plan and Annual Implementation Plan provide important indicators of the role of ICT in the school. While developing and maintaining the level of infrastructure was highlighted by all three principals, its role in supporting student learning and teacher professional learning was not mirrored in the Strategic Plans in Schools 1 and 2. The ICT "through-lines" from Strategic Plan/Charter to eLearning Plan to professional learning programme were not evident, despite the huge financial investment, and without drawing these three elements together, there is no clear picture to show how ICT would be used to drive and improve learning and teaching.

4.6 School-based ICT Peer Coaching Programmes

The ICT peer coaching programme implemented in each of the three schools throughout 2007 varied considerably. Possible influencing factors could have included such things as the importance placed on the role of ICT in the curriculum, the professional learning culture of the school, the level of support by the leadership team and the level of expertise of the ICT peer coach.

The ICT peer coaching programme at School 1 grew from the coaching expertise of a staff member who transferred into the school in 2006 and upon which the school leadership was keen to build. The principal explained “We want to do things well here. What shall we do with someone with special expertise? Let’s support that person to see how we can gain the most value” (S1.P.I1.L119–121). The school at which the ICT peer coach had been working in 2005 had been involved in the *Creating eLearning Leaders* (CeLL) initiative, DE&T’s partnership programme with Microsoft and described in Chapter 2. Through this involvement she had been awarded a scholarship and completed a ten-day professional learning programme on ICT peer coaching (S1.PC.I1). Based on her experiences in this pilot and the resources made available through her initial training, the ICT peer coach then went on to develop a school-based resource, *ICT Peer Coaching Handbook 2007* (S1.A8), which became a key resource for the peer coaches at the school in 2007. The Handbook provided a rationale for ICT peer coaching in the school, potential benefits for all stakeholders – coachees (learners), coaches, students and the school overall – and a description of the ICT peer coaching model which was to be used. A formal meeting between the peer coach and coachee to develop a coaching plan and identify goals was one of the key first steps, to be followed by a planning session (pre-observation conference), an implementation session (observation) and a debriefing and reflection session (post-observation conference) which are explained later in this chapter. An evaluation to be completed by peer coaches with their coachees each term as well as an end-of-year major evaluation, were other elements of the model. A number of templates to document the various implementation stages were provided.

The ICT peer coach also completed a coaching course called *Coaching Skills for Successful Teaching* in 2006 through the CeLL initiative, a five-day commercially available programme, which enabled her to further build on her expertise. While not

having a focus on ICT, this programme included the development of a range of coaching skills such as understanding the differences between mentoring, coaching and supervision and verbal and non-verbal skills necessary for coaching (Performance Learning Systems, 1996).

The confidence of the leadership team appears to have been well placed as the ICT peer coaching programme's success in the small pilot in 2006, led the team to formally establish an ICT peer coaching programme throughout the school for 2007 (S1.PC.I1). This confidence was supported by openness to new opportunities, as highlighted by the principal:

And we are very keen to support any initiative that the staff are willing to commit themselves to. We don't have any set boundaries. We're not stuck in a process that's just evolved over years and years, and being a new school we're very open and encouraging to what we want to do.

(S1.P.I1.L116–119)

School 2 had also been a CeLL school and through this initiative, four staff members had completed the *Coaching Skills for Successful Teaching* course. To introduce peer coaching to the staff, these teachers had demonstrated the model of pre-observation conference, observation and post-observation conference. The team also created an introductory video based on the course to show the staff and, as a result, some teachers did work informally on an ICT focus with the peer coaches in 2006 (S2.PC.I1).

Only one of these peer coaches continued in the coaching role in 2007, working with two learners. This was to continue as a small pilot in the school as the ICT peer coach felt there would be a major push for peer coaching in the areas of ICT and Social Competencies (S2.PC.I1). This was further reinforced by her view that the principal, who had commenced at the school late in the previous year, supported the view of teachers learning from teachers, with staff expertise utilised (S2.PC.I1).

The principal of School 2 acknowledged in Term 1 that ICT peer coaching was in its very early stages (S2.P.I1) and wanted “to take small steps and trial in small groups and then share our experiences” (S2.P.I1.L93–94). However, the principal saw peer coaching as having a role to play in the school's journey towards Performance and Development Culture accreditation in 2008, a further reason to support the implementation of ICT peer coaching at the school.

We'll encourage all staff if they wish to make...under their Performance & Development plan, under our school priorities, they have to indicate their focus on PD, if they wish to focus on ICT, then they will be supported up to a day of time-release which fits into the peer model, so there can be a pre-meeting, the actual delivery and then the de-brief. Now not all staff will choose to do that, but it gives staff the opportunity to do that.

(S2.P.I1.L110–116)

The principal also made explicit the link he wanted to see between peer coaching and the goals identified in the Annual Implementation Plan:

I mean part of P & D Culture is feedback. We know that feedback when done well can have an impact on learning. Now teachers know this because they do this with children all the time. But do staff have an opportunity to use the same feedback loop in their own learning? We want to try and create that opportunity. And that's where peer coaching will have a role and it therefore doesn't have to be ICT. It can be peer coaching-slash-ICT, PoLT ... any element of PoLT and that will be a staff choice. As long as the 'slash' is linked to our three school priorities which are in our Annual Implementation Plan.

(S2.P.I1.L119–127).

School 3, which had had peer coaching in place for a number of years, had a comprehensive model of peer coaching in place. The principal distinguished between mentoring and coaching by saying:

We see mentors as being someone to lean on, a sympathetic ear who will support teachers over a plethora of issues. They are a sage. They are there to provide social and emotional support and everyone on staff has a mentor. The coach, on the other hand, is focused on pedagogy and classroom teaching and learning practice.

(S3.P.I1.L140–144)

Initially, the impetus for the coaching programme came from the principal, but as it became established in the school, the momentum was driven by the teachers.

Our coaching programme is multi-layered. I had read widely about coaching and our model is a blend of coaching types such as collegial, cognitive and performance coaching and we have built the model around this. It is driven by encouraging people to talk about teaching. Our Leading Teachers first ran with coaching in an informal way, then the model progressed. We are able to fund time for our coaches through the Leading Schools Fund programme...There is an expectation at this school that everyone will become a coach at some stage. The whole system gains by having skilled coaches, not just the school.

All of the peer coaches at School 3 completed the *Coaching Skills for Successful Teaching* course in 2006, though not through the CeLL initiative as was the case with Schools 1 and 2. With this training as a basis, the coaches examined three different types of coaching models and drew elements from these that they thought would work best for their teachers (S3.PC.11). “Everybody has different needs and so we felt that we needed to make sure that we catered to those needs, in there are people of different levels just needing different ways of support” (S3.PC.11.L152–154). The ICT peer coach at this school was also the eLearning coordinator and so it would seem that both these were complementary roles. As eLearning coordinator, he had responsibility for leading the development of the school’s eLearning plan in which learning and teaching were firmly positioned; as ICT peer coach he was in a position to “walk the talk”, supporting teachers to integrate ICT into their classroom programmes as envisioned in the plan.

The ICT peer coaches at Schools 2 and 3 had expertise in ICT peer coaching and consequently there was no need for their schools to establish a selection process. At School 1, it was through the existing expertise of the ICT peer coach that the programme was initially established. When the programme was expanded in 2007, additional ICT peer coaching roles went to staff who were in non-classroom roles and included the assistant principal, the Curriculum Leader, the Welfare Coordinator. The study does raise the question about the selection of future ICT peer coaches, and the identification of expertise and skills they would need to be effective. Furthermore, all three coaches in the study had considerable teaching experience, strong ICT skills and all had previously completed training in coaching, though not necessarily with an ICT focus. However, only the ICT peer coach at School 3 had attended any specific professional learning related to peer coaching during 2007 and that had taken place at the beginning of the year. Who supports peer coaches to reflect on their own practice? How can they continue to refine their techniques? In other words, “who coaches the coaches?” is another issue raised by this study.

One element which was common to all three ICT peer coaching programmes and which varied from findings in the literature was the duration of the peer coaching partnership. In all three schools, the ICT peer coaches worked with the same learners over the course of the year, though the number of peer coaching cycles they worked through varied.

Conyers (2004) viewed mentoring as a longer term relationship while coaching was short term and this view was shared by Carr, Herman and Harris (2005). The longer term nature of these peer coaching relationships could have implications in terms of the resources required – peer coaches and budget – to support the needs of all teachers who may wish to be coached.

With different reasons behind the introduction and support of ICT peer coaching programmes – staff expertise, the introduction of new initiatives and a rich professional learning culture – what then did the peer coaching programme look like at each of the schools? Once again, there were differences in the models used and there were also a number of similarities.

As was stated earlier, School 2 had one ICT peer coach in place as the programme was in a trial phase, while Schools 1 and 3 both had a team of peer coaches in place. In School 1, the peer coaching team for 2007 was composed of four ICT peer coaches, all of whom were in non-classroom roles. Three of the coaches each worked with two learners, while one coach, the assistant principal, worked with one learner.

School 3 had six coaches in place during 2007, one of whom was a designated ICT peer coach. Another one of the coaches was the assistant principal and was the only coach who did not have a teaching role. However, all remaining coaches were supported in their role by a non-teaching allowance, i.e., time not spent in the classroom, which varied. The time allowance for the ICT peer coach was for 13 periods (S3.PC.I1).

While the ICT peer coach at School 3 was available to work with all teachers, the remaining peer coaches were designated to a particular year level or learning community within the school. It was evident from the quotes by the principal of School 3 that pedagogy was at the heart of the peer coaching programme at the school. This was further reinforced by the ICT peer coach who in talking about his role said it was:

... a little more clear cut because it is about the introduction of some sort of technology into the classroom and then the use of that technology, whereas the others are concentrating purely on pedagogy. However, I never ever want to be in a position where they are actually separated, never, and I actually won't do and if I am ever asked to do it I do say no.

(S3.PC.I1.L159–164)

4.6.1 Teaching Experience of ICT Peer Coaches and Learners

While the approaches to identifying the ICT peer coaches varied across the three schools, the opportunity to be coached was open to all teachers at each of the three schools. Table 6 shows the number of years of teaching experience of the learners and the ICT peer coaches who participated in the study.

Table 6. Years of Teaching Experience

School	Participants	Years of Teaching Experience
School 1	Learner 1	3 years
	Learner 2	6 years
	ICT Peer Coach	14 years
School 2	Learner 1	33 years
	Learner 2	22 years
	ICT Peer Coach	20 years
School 3	Learner 1	5 years
	Learner 2	2 years
	ICT Peer Coach	24 years

As the above table shows, the ICT peer coaches all had many years of teaching experience, while the learners had between two and thirty-three years of experience. As all learners in each of the schools in the study volunteered to be coached, the spread of teaching experience in this group shows that ICT professional learning is valued regardless of years of classroom experience. During the Term 1, 2007 interviews, two learners described their ICT skills as quite good – Learner 2 at School 3 and Learner 2 at School 1, particularly the latter who had been a graphic designer before changing to a teaching career; Learner 1 at School 1 had previous experience in claymation and movie-making in the classroom, while Learner 1 at School 3 had experience in wikis and blogs. This would indicate at least a confident level of ICT skills for both of these learners. In contrast, both learners at School 2 had very limited ICT skills and confidence, with Learner 2 stating that ICT “... is not my fondest area ... because I really need updating in that area” (S1.L2.I1.L25–26). With the learners in the study, this would show that the greater years of teaching experience did not equate with strong ICT skills and confidence.

4.7 Discussion

The findings from the study are discussed in sections related to the peer coaching relationship, scheduling of conferences, observational data, practise in the use of ICT, questioning techniques, documentation and programme evaluation. Findings in relation to benefits and challenges of the programme are also discusses and the final section examines the programme in the context of the Performance and Development Culture.

4.7.1 Peer Coaching Relationship

Before investigating the way in which the ICT peer coaches and learners collaborated in the pre- and post-observation conferences, an initial examination of the relationships between them and the attributes which contributed to a successful partnership is necessary. As described in Chapter 2, a trusting, supportive climate is an important element of effective coaching.

All of the ICT peer coaches and learners were asked what they felt were important elements of a successful peer coaching relationship during their Term 1, 2007 interviews and again in the Term 4 interviews. Trust was by far the most commonly identified element by both coaches and learners. For the learners, “trust” encompassed both trust that the coach would keep their progress confidential, but also trust in the expertise of the peer coach and their commitment to supporting the learner. As Learner 1 at School 1 said “I guess an element of trust, that the person who is your coach, is skilled in that knowledge or ICT area that you want to grow in” (S1.L1.I1.L110–112). This was further highlighted by Learner 1 at School 3 who said “I think one of the critical elements is I really do feel like he has my best interests at heart as far as developing me as a teacher” (S3.L1.I1.L122–123). Learners also identified support and encouragement by the peer coach as they tried new technology and strategies as important to them. Good communication skills were also highlighted, as shown by Learner 1 at School 1: “I think vital to that relationship ... is the ability to speak to and relate to the person that’s coaching” (S1.L1.I1.L95–97).

For the coaches, trust was described in terms of being able to have an open relationship in which both parties could work together without concern by the learners that they were being evaluated as teachers. As the ICT peer coach of School 3 said “There must be no

sense of judgement taking place, they don't feel in any way that they're being judged or assessed" (S3.PC.I1.L256–258).

It appeared through the Term 1, 2007 interviews that the learners and peer coaches understood that elements such as trust and the confidentiality of the process were important to a successful peer coaching partnership. Yet as is evident through the pre- and post-observation conferences, these were not elements that were re-visited or discussed as the peer coaches and learners worked together, perhaps in fact demonstrating that these elements were in place and therefore did not need to be laboured at each conference.

It also appeared from the researcher's observations of the pre- and post-observation conferences that the relationships between the coaches and their learners were comfortable and supportive. This was evident through the ease with which the conversations flowed and that minor interruptions to the conferences as happened occasionally did not disconcert the learners (Appendix 2, Observation protocol).

The conferences took place in whatever suitable locations were available at the time, generally either the learners' classrooms, or meeting rooms within the school. On one occasion the assistant principal's office was used (S3.L2.Post2.OP). In all three schools, the coaches and their learners sat informally side-by-side or around tables and the body language of the learners, such as sitting back in their chairs and maintaining eye contact with their peer coaches, indicated a comfortable, relaxed atmosphere (Appendix 2, Observation protocol).

4.7.2 Scheduling of Pre- and Post-observation Conferences

All peer coaches in the study used a cycle of a pre-observation conference, an observation session during which data required by the learner was collected, followed by a post-observation conference. Meeting times for the conferences were negotiated between the peer coaches and learners and this was often a challenge for both parties. The peer coaching team model in place at School 1 intended that one of the other coaching team members would be available to release a learner from his/her classroom to meet with his/her ICT peer coach (S1.PC.I1). However, due to their other roles in the school, the coaches would often be unavailable.

We'd organised amongst the coaches to cover the coachees' [learners] classes so they could come out. It was fine obviously if it was just you going in to work in the classroom with your coachee, but when the coachee wanted to come out, that was the issue. At the start of the year, we did that reasonably well, but as the year went on and people got busier, especially towards the end of term or report time, it didn't happen the way we wanted it to happen.

(S1.PC.I2.L33–39)

The non-classroom role of the ICT peer coach at School 1 did, however, enable her to go into the learners' classrooms for the observation sessions easily.

The situation was more difficult for the ICT peer coach at School 2 who was in a full time classroom role, with very little flexibility to arrange pre- and post-observation conferences during the school day. She was also reliant on the availability of either the principal or the assistant principal to cover her class in order to undertake her observation sessions of her learners.

... I've just had to book in a time which suited everyone which could be a bit tricky because it had to suit with my timetable, the timetable of the teacher I was observing and also the commitments that the principal and the assistant principal had and sometimes they would cancel quickly because of an emergency situation or whatever.

(S2.PC.I2.L59–63)

As a result in Schools 1 and 2, the pre-and post observation conferences would take place out of hours or during the Administration and Planning Time (APT) of peer coaches and their learners. While the ICT peer coach at School 3 did not have difficulty in scheduling the observation session with his learners, their pre-and post-observations also took place either out of hours or in their APT. Scheduled conferences occasionally started late due to unforeseen circumstances such as an unscheduled staff meeting being called and timetable changes (Appendix 2, Observation protocol).

School 1 was the only school in which the pre-observation, observation and post-observation took place on the one day. With Schools 2 and 3, the three parts of the coaching cycle were generally spread out over a number of days, depending on the availability of the peer coaches and learners, and in the case of School 2, the availability of the principal or assistant principal. This resulted in fewer coaching cycles taking place during the course of a term than may have been desirable. While this was not raised as an

issue by the peer coach or learners, it may have limited the impact on the learners participating as both learners at this school had low ICT skills.

As this section shows, scheduling of time for peer coaches and learners to meet for their pre- and post-observation conferences during school time was often problematic, despite plans for other staff members to replace either the coach or learner. This is a key challenge to the implementation of a school-based ICT peer coaching programme as it presents a potential barrier for uptake by teachers who would be reluctant or opposed to any meeting taking place in their own time.

4.7.3 Pre-observation Conferences

The purpose of the pre-observation conferences was for the ICT peer coach and learner to identify what the focus of the classroom session to be observed by the coach would be and also to identify the nature of the data to be collected.

In examining the data from the pre-observation conferences, there were four elements which were common to all. These were a general opening or greeting, a description or explanation of the teaching and learning focus of the session to be observed by the ICT peer coach, the observational data to be collected and the organisational elements that needed to be put in place for the observation to occur.

The opening/greeting for each pre-observation conference was quite brief, without any formalities and as discussed earlier, indicative of the comfortable relationships between peer coaches and their learners. The greeting was then followed by the peer coach asking about the context of the observation and the goal of the teaching and learning session.

The different levels of ICT skills and confidence of the learners helped shape the ways in which their pre-observation conferences developed. During both the Term 2 and Term 3, 2007 conferences, all learners were able to clearly describe the learning activity which would be taking place when the ICT peer coach would be in their classroom, though none took any lesson plans or notes to the conferences (Appendix 2, Observation protocol).

At Schools 1 and 3, both learners were able to state the focus for the observation within the context of the lesson they had planned. For example, “Basically it’s a new unit of work for the Grade 5/6s activity group, it comes under the banner of production and sets

... in terms of technology we'll be looking at students to design specific images for the backdrops for the concert" (S1.L1.Pre2.L6–14); "We're doing Macbeth ... what I thought I would do is give them the essay topic and get them to use the Showing Evidence [online thinking tool] through Intel. So that way they can support their ideas about the text ... and they can reason and discuss" (S3.L1.Pre2.L52–60). Table 7 shows the focus of the sessions which the ICT peer coaches observed, the data required and the method of data collection as identified in the pre-observation conferences by the learners in Terms 2 and 3, 2007. As can be seen from the data in the following table, it was the learners of School 2, both with the greatest number of years of teaching experience, who were focused at an ICT skill development level while the learners Schools 1 and 3, with significantly fewer years of teaching experience, who had a teaching and learning focus around the ICT they were using.

Table 7. Focus and Observation Data Required

Key: (S) – student-focused data

(L) – learner-focused data

(S/L) – student- and learner-focused data

2007	ICT Peer Coaching Focus - Learner 1	Observation Data Required	ICT Peer Coaching Focus – Learner 2	Observation Data Required
S1 Term 2 2007	Integration of ICT (showing excerpts of DVD) as stimulus for planning of next school production (Year 5/6 class)	<ul style="list-style-type: none"> • Level of student interest, engagement and whether on task (S) Method of collection <ul style="list-style-type: none"> • Record student responses to questions (including student names) • Observations of students as they were working 	Planning for development of a video to educate parents on safe parking areas around the school (Year 6 class)	<ul style="list-style-type: none"> • Learner instruction to students on the task (explicitness of instruction) (L) Method of collection <ul style="list-style-type: none"> • Observations of students not on task • Observations of learner's level of instruction.
S1 Term 3 2007	(No ICT focus) Student demonstration of style of art by nominated artist (Year 3/4 class)	<ul style="list-style-type: none"> • Student understanding of task (S) Method of collection <ul style="list-style-type: none"> • Observations of students' participation in group discussion • Observations of students' engagement with task as they practise technique in same style as nominated artist 	Identification of current levels of students home ICT use and related safety and security issues (Year 6 class)	<ul style="list-style-type: none"> • Capturing data on students' home access and use of ICT and awareness of online safety (S) Method of collection <ul style="list-style-type: none"> • General observations

		<ul style="list-style-type: none"> • Move around the room and chat with students – anecdotal notes on their questions and comments 		
S2 Term 2 2007	How to use a digital camera (Year 3 class)	<ul style="list-style-type: none"> • Students saving digital images into their individual class folder on the shared drive (S) <p>Method of collection Checklist of students to indicate which were able to complete task successfully</p>	Use of SmartBoard (Year 2 class)	<ul style="list-style-type: none"> • Use of SmartBoard to demonstrate to students how to save an electronic file into their folder (S/L) <p>Method of collection General observations – learner skill in using the SmartBoard, instructions to students and student understanding.</p>
S2 Term 3 2007	Use of digital camera in the classroom in maths activity. Designated student photographer to take up to 5 photos of each student group as they demonstrate their understanding of specific concept. Photos eventually to be included in student's digital portfolio (Year 3 class)	<ul style="list-style-type: none"> • Observations of students working in groups on maths task and setting up the shots they want taken (S) <p>Method of collection Checklist of students indicating task they were working on and whether they were on task</p>	Inserting a photo into a document; demonstrated via SmartBoard (Year 2 class)	<ul style="list-style-type: none"> • Use of SmartBoard to demonstrate to students how to select a digital image from their folder, insert into a Word document and save (S/L) <p>Method of collection • General observations – learner skill in using the SmartBoard, instructions to students and student understanding</p>
S3 Term 2 2007	Student use of SmartBoard to demonstrate algorithms (Year 12 Maths class)	<ul style="list-style-type: none"> • Observation of learner questions and prompts to students (L) • Level of learner direction 	Use of blogs (Year 12 English class)	<ul style="list-style-type: none"> • Observation of learner introduction of blogging – how to make it sound exciting to students; level

		<p>required as an indicator that students have understood task (L)</p> <p>Method of collection</p> <p>Observation notes</p>		<p>of explicit instruction required (L)</p> <p>Method of collection</p> <p>Plus, Minus, Interesting Chart</p>
S3 Term 3 2007	<p>Student use of SmartBoard to demonstrate algorithms (senior Maths class) – continuation from Term 2, for the purpose of capturing demonstration via video for use as tutorial by other students (Year 12 Maths class)</p>	<ul style="list-style-type: none"> • Observation of student proficiency in use of the SmartBoard to identify where further learner instruction may be required (S/L) <p>Method of collection</p> <p>Observations of student interactions, questions, issues</p>	<p>Use of an online tool (Showing Evidence) to develop structure for essay on Macbeth. (Year 11 English class)</p>	<ul style="list-style-type: none"> • Observation of learner introduction to online tool and how it can be used to develop essay structure (S/L) <p>Method of collection</p> <ul style="list-style-type: none"> • General observation of learner instruction provided at the beginning of lesson • Anecdotal data from students to gauge their understanding of how to use the online tool

During the pre-observation conferences, there were a number of times when all of the peer coaches would “check-in” with their learners, making sure they had understood their requirements as the following examples show: “So basically when I come in I’m checking that they’re on task and ...” (S1.L1.Pre1.L134–135); “Okay, so our focus is you’re teaching the children how to ...” (S2.L1.Pre1.L301–302); “So let me run it back to you then. What we’re going to be looking at is ...” (S3.L1.Pre2.L170–171). Checking-in in the way the peer coaches have demonstrated in these examples provided a cue for the learner that the peer coach was about to re-cap. It provided a tuning-in opportunity for both peer coach and learner to check that they were “on the same page”.

Organisational details such as the day and time of the observation, the duration of the observation and any equipment or room bookings which were required were also elements of the pre-observation conferences, coming towards the end of the conferences. All of the ICT peer coaches took hand-written notes during these conferences (Appendix 2, Observation protocol).

4.7.4 Observational Data

In identifying what observational data was to be collected, none of the learners provided a clear cut description of the data they wanted, nor how it was to be collected. Often, the peer coach led this process by asking clarifying questions. Below are some sample questions asked by the ICT peer coaches in Schools 1 and 3:

- “What sort of things do you want me to look for?” (S1.L1.Pre2.L43)
- “... when I come in and observe some of this what do you want me to look for, focus on?” (S1.L2.Pre2.L56–57)
- “What sort of feedback would you like me to give you today?” (S3.L2.Pre2.L137–138)
- “So what am I going to be watching for here?” (S3.L2.Pre3.L202–203).

There were many instances where the peer coaches and learners would work together to identify what data would be collected and how, tailoring the data collection method to meet the learner’s needs for the specific lesson. The peer coach at School 1, for example, asked “How would you like me to record this for you?” (S1.L1.Pre2.L85–86) and “And how do you want me to record this? What sort of things are you looking for?”

(S1.L2.Pre2.L77–78). The peer coach at School 3 asked similar questions and made practical suggestions where the learner needed some guidance “Would something like me giving you a chart, PMI [Plus, Minus, Interesting]? These things you did they worked really well, these didn’t work so well and maybe the Interesting we could explore some things we could do” (S3.L1.Pre2.L197–201).

The ICT peer coach at School 2 didn’t explicitly *ask* her learners about the type of observational data they might like collected during the Term 2, 2007 pre-observation conferences, instead she suggested the type of data she could collect for them. However, explicit questions were asked in the Term 3 conference such as “What specifically would you like me to observe?” (S2.L1.Pre3.L34) and “So when I’m observing you, what do you want me to be looking out for, what sort of things?” (S2.L2.Pre3.L142–143). It is unclear why such explicit questions were not asked in Term 2, though possibly given the coaching programme was being trialled it was because of the unfamiliarity with the coaching process by the learners or their lack of understanding of what observations could be possible.

The most common method of data collection required by the learners was general observational data. A PMI organiser used by the peer coach at School 3 and checklists used by the peer coach at School 2 were used and had been suggested by the peer coaches themselves. The study did not indicate what other types of data collection methods, if any, had been used in the past. The general observational data required by the learners and the fact that none of them suggested a particular type of data collection method to be used may indicate their lack of experience or knowledge about what data could be helpful to their professional learning. General observational data, rather than quantifiable data, such the number of times students asked questions or the time taken for students to complete a task, may also possibly require the peer coaches to elicit a greater level of detail from their learners about what they want from the data and how they plan to use it to ensure the peer coaches collect data that meets the learners’ needs.

In examining the types of observational data required by the learners as shown in Table 7, it is interesting to see that some data was based on learner action, some on student action and some on a combination of both. Both of these forms of data could help inform teacher practice. The use of both learner and student data is also possibly the most valuable as they could be used to validate each other, providing the learner with an

evidence base from which to reflect upon his/her teaching and learning programme. However, while some form of student data was collected, none of the learners (or peer coaches) made any reference to the use of student achievement data based on VELS in relation to the peer coaching programme. In fact, VELS was not explicitly mentioned in any of the interviews with the peer coaches or learners nor in the pre- or post-observation conferences and would indicate that the ICT peer coaching programmes at all three schools, while focused on teacher professional learning, did not connect this learning to improving student learning. While student and learner observation data was collected by the ICT peer coach, its purpose in relation to changes in VELS data was not being considered. This indicates once again that a clear, common purpose – the “through lines” that tied all the strategic planning and programmes to improve student learning in these schools – were not in place.

4.7.5 Practising the Use of ICT to Develop Skills

Some of the learners indicated in the Terms 2 and 3, 2007 post-observation conferences that they had practised the use of the technology they were to be using in some way, whether on their own or with students, in-between their pre-observation conference and the observation session. At School 2, the ICT peer coach and Learner 2 met for a skills session to help the learner develop both skills and confidence in the use of the SmartBoard. This was a successful strategy and in the words of the learner “... yeah, I felt a lot more comfortable doing it like that” (S2.L2.Post2.L25–26). This learner also had her own practice session with a student observing her and Learner 1 at School 2 had also indicated that she had practised between the pre-observation and the observation. Both learners at School 3 also indicated that they had spent time using the technology in preparation for their observation sessions.

This is an interesting step as it was not something that had been identified in any of the literature. It would seem from this that being coached gave some of the learners the impetus, a classroom-based reason, to develop their proficiency in using ICT in the classroom. This meant that the learners were focusing on their skills beyond the pre-observation, observation and post-observation conferences which then allowed the focus of the coaching cycle to be on the use of ICT in the classroom from a teaching and learning perspective, not a technical “how-to” of the technology to be used. This is an important benefit of a successful ICT peer coaching programme.

4.7.6 Post-observation Conferences

As with the pre-observation conferences, there were little or no formalities and both the peer coaches and the learners went straight to the task. The strategies used by the peer coaches in the post-observation conferences varied somewhat. After a brief greeting, the ICT peer coach from School 1 asked her learners how they felt the observation session had progressed, seeking their reflection before providing any feedback. After listening to the learners' reflection, the peer coach then provided her feedback, drawing from her observations and notes. The peer coach also asked questions of the learners to help them reflect more deeply on their experiences, with questions such as "OK, what do you think was the most important element of today's lesson?" (S1.L1.Post2.L111). It is worth noting that the peer coach prefaced many of her sentences with "I liked how you ...", which could be seen as a judgement statement, though this was never commented on by either of her learners; this could be an indication of the comfortable peer coaching relationship that existed between them.

The ICT peer coach at School 2 followed the greeting in the post-observation conference with a brief re-cap on the purpose of the observation, asking clarifying questions of the learner almost as a means of ensuring that the data about to be provided was what had been required of her. What followed then could be described as a re-telling of the session observed, punctuated by further questions from the peer coach to draw out the learner's reflections in a way that was conversational as the following dialogue shows:

- P/coach: And then during your lesson ... you actually did that, you taught the children how to put their stories into a folder on the network.
- Learner: Yes.
- P/coach: And so they felt, you felt comfortable with the way they were doing that. And my role was just to observe you.
- Learner: Yep. I actually found that really, really interesting in that I thought the kids weren't going to take that much notice ... But when I was presenting how to do it, it was just great to have that big board that they could all see and so there were no complaints there that they couldn't see anything and just, you know, I found it really great that the kids were taking notice and they really wanted to know how to do this.

(S2.L2.Post2.L30–45)

The ICT peer coach at School 3 used a combination of approaches to open the post-observation conference, commencing two conferences with a re-cap and two by asking the learners how they felt the observation session had gone. This peer coach also asked the learners questions throughout to draw out their reflections on the lesson itself such as “How do you think that worked?” (S3.L1.Post3.L59) but also on the data that was being provided “But other than that, there was fourteen of them [students] ... still chipping in every so often with something, so what does that tell you?” (S3.L2.Post2.L90–93).

All three coaches provided much constructive feedback to each of their learners throughout the post-observation conferences – feedback based on evidence from the observations and which demonstrated the learner’s pedagogical and/or technical skill in the classroom, as the following quotes show:

You kept encouraging them to think about alternatives, but you kept bringing them back and saying ‘What are you trying to teach people from this movie?’ so they weren’t losing track of their main idea.
(S1.L2.Post2.L107–110)

And you explained everything really well, how to use it and how to do the logging. And then you used children to help you with it as well.
(S2.L2.Post2.L97–99)

The positive thing that particularly stood out to me was how you got across what it was you wanted them to do ... you didn’t just say it you modelled it ...
(S3.L1.Post2.L84–86)

4.7.7 Questioning Techniques

In examining the interaction of the peer coaches with their learners during the pre- and post-observation conferences, the questioning techniques used by the peer coaches is worthy of further scrutiny. The types of questions asked by any peer coach determines how skilfully they are able to draw out from the learner what the learner wants to know, while maintaining a supportive and comfortable environment.

The use of clarifying questions was briefly touched upon in 4.7.4 Observational Data. All of the peer coaches used a range of clarifying questions during the pre- and post-observation conferences; these questions were fact-based and provided information to

the peer coach. Some examples of clarifying questions asked by the peer coaches included:

- “So how are you going to be using technology today?” (S1.L1.Pre2.L30–31)
- “Okay, have you taken many photos of the children?” (S2.L1.Pre2.L115)
- “How many questions did you get like that, once they got in?”
(S3.L1.Post2.L254)

Other clarifying questions asked by the peer coaches were to do with organisation, such as setting up a meeting time and place for the observations and any ICT requirements.

In addition to clarifying questions, the peer coaches also asked probing questions, questions which were more thought-provoking and encouraged reflection. Some examples of the peer coaches’ probing questions were:

- “OK ... from using that information, how are you going to use that to inform your teaching?” (S1.L1.Pre2.L115–117)
- “How would you use the photos in your teaching and learning?”
(S2.L1.Pre2.L43–44)
- “What do you see as the next step for this?” (S3.L1.Post2.L243–244)

These open-ended questions were more about teaching and learning practice; they drew upon the experiences of the learners with an opportunity to reflect on their experiences and understanding about their pedagogical beliefs and practices and were central to their professional growth.

While all three peer coaches used clarifying and probing questions, one cannot make generalisations about the ways in which they interacted with their learners during the pre- and post-observation conferences to apply to other coaching situations. Variables such as the relationship between peer coach and learner, the peer coach’s expertise, the skill and confidence level of the learner and the complexity of the learner’s focus for the coaching cycle are just a few that could impact on these interactions. However, in keeping these variables in mind, a look at the questions through a different lens can provide further understanding of possible techniques and strategies.

The two peer coaching samples below have been selected as they demonstrate contrasting styles used by the peer coaches at Schools 2 and 3 in working with one of their learners.

The focus of Learner 2 at School 2 was to develop her skills in using a SmartBoard. This learner was lacking in confidence, had limited skills in the use of ICT in the classroom and described herself as being at a beginner level (S2.L2.I1). With little understanding of the teaching and learning potential of a SmartBoard, her first thoughts were to use it as a presentation tool for showing DVDs. Through her questioning, the ICT peer coach was able to guide the learner towards some tasks that she could demonstrate to her students as a step towards developing their skills, as the excerpt below shows:

- PC: Save something in their folder maybe or ... you know, like save some writing in their folder?
L: I'll save some writing, that will be good.
PC: Organise their folder maybe?
L: How to get to their um ...
PC: How to get to their folder ...?
L: Their writing folder. How to get to it when I can send them in ...?
PC: And how to save?
L: That was a good one, yeah.
PC: How about that? So if you use the SmartBoard as a demonstration tool on how to save their writing into their folder.
L: Yeah, yep that'll be good.

(S2.L2.Pre1. L175–186)

In this example, the peer coach took a lead and asked simple questions in order to broaden the learner's thinking about ways she could meaningfully begin to use the SmartBoard in the classroom. In asking these types of questions, the learner was still able to make choices about her learning without being overwhelmed or directed.

The next example from School 3 shows the peer coach working in a very different way with one of his learners. The focus for Learner 2 was also in the use of a SmartBoard, but was student-focused and involved the students demonstrating algorithms which would be captured using the SmartBoard tools as short videos for other students to access. The learner was quite skilled in the use of the SmartBoard and a confident user of ICT.

- PC Would you think it might be, would be, worthwhile getting the kids themselves to say well basically what are the selection criteria for people doing the recordings?

- L I think with a couple of the kids, and I'm thinking of the kids in that group that are the most likely to be disruptive, to some extent that might be a little off-putting, but for the majority of kids I think that would work.
- PC ...You mentioned about maths vocabulary as well, being able to put the correct expressions in and things like that. That could be like a team expression. Would they do a rehearsal first, do you think, or is that unnecessary?
- L Maybe to begin with, just to build their confidence even, so that they know when they record it ... because it seems like a big deal to them to record it because it's permanent and they're not really used to that yet. It would be good, particularly when we start doing it, in that sense, for them to be able to rehearse it
- PC What if they saw samples and who should make the samples?
- L Well, I think that would probably be for us to do.
(S3.L2.Post2.L222–245)

In this sample, the peer coach (also a Maths teacher) and learner are working collaboratively, with the peer coach asking questions to extend the learner's thinking. At the same time, the peer coach was also acting as a "sounding board" as the learner thought through the process associated with the SmartBoard activity.

In examining the post-observation conferences, there is evidence of possible future focus areas being identified as part of this stage, though this was not the case across the three schools. At School 1, Learner 2 identified a possible area for future work in his classroom practice in both his Term 2 and Term 3 post-observation conferences, but not as part of his coaching programme. The ICT peer coach at School 1 did not seek any input from either of her learners about a possible focus for the next coaching cycle. At School 2, both learners identified a focus in the Term 2 and 3 post-observation conferences. The peer coach asked a few questions to clarify the focus and then reiterated it towards the close of the conferences. At School 3, a future focus was identified only in the Term 3 post-observation conference, with the ICT peer coach taking an active role in the process. In thinking back on the lesson observed by the peer coach, Learner 1 reflected that many of the students hadn't properly used the online tool to rate the evidence upon which their essay would be based. The peer coach then asked "Maybe that would be a good thing to look at?" (S3.L1.Post2.L297). This was followed by a discussion about when and where

the next session would take place. The ICT peer coach took a similar approach with Learner 2, asking her at one point during the post-observation conference “So would it be fair then that maybe that’s an issue that we can look at sometime ...? (S3.L2.Post2.L112–113). This question proved to be a springboard for a long discussion which saw a shift away from the traditional peer coaching partnership to a more collaborative partnership between peer coach and learner, as the following excerpt shows:

PC: How would we go about that training?

L: I think the best way to do it is to continue to do I guess a progression of what we started doing the other day, but when they [the students] finished, is get them in for a day and just go through ... where we actually go through the rationale for what we’re doing, why we’re doing it, all that sort of thing ...

PC: Would that help if I took some aside and gave them the technical training of it, and so we get out of the way the SmartBoard issues and once we’ve done a recording ... work with you in the classroom, how does it actually happen logistically, how do you select the kids, I guess for yourself, how do you even know which things to record? As a teacher you have to flag those, don’t you?

L: Yeah, it would be useful for me to say OK, these are the things I need to highlight.

(S3.L2.Post2.L343–

362)

This post-observation conference is an important one to highlight as it signals two significant changes in the role of this ICT peer coach. The first, mentioned above, is a greater role of the coach as collaborator, working with the learner to set up a session in which the peer coach would have an active role, in this case, working directly with students, rather than that of observer and data collector. Both the peer coach and learner would be observing students and testing their ideas. Secondly, it also signals a shift away from the pre-observation, observation and post-observation cycle that was used across the schools. It would seem that this post-observation conference also combined the following pre-observation conference, setting the scene for the learner and coach to team-teach and help the learner further her understanding of how to best use the SmartBoard as a teaching and learning tool.

These changes reflect how the role of an ICT peer coach can vary and yet still be centred on supporting the professional growth of the learner. They also highlight the skill and adaptability required by a highly effective peer coach. While some might question the appropriateness of the peer coach specifically highlighting a potential future focus rather than drawing out a focus from the learner, it was done through a question which the learner could accept or reject. Perhaps seizing on the best opportunity to extend the learner's understanding might make this type of questioning acceptable.

A final point to note in relation to the post-observation conferences is that an analysis of the data from these conferences did not indicate any overall evaluation of the coaching cycles between peer coach and learner. It is difficult to say whether either an informal or a formal evaluation would take place in subsequent cycles. While School 1 had stated in its ICT Peer Coaching Program Handbook (S1.A8) that an evaluation would take place each term to assess the benefits of the program, learner progress in the integration of ICT and changes in his/her students' engagement and learning, there was no evidence that this had occurred. The failure to formally reflect upon progress made across each peer coaching cycle would appear to be a weakness in the peer coaching programmes at all three schools.

4.7.8 Documentation by ICT Peer Coaches and Learners

As noted earlier, all three peer coaches took hand-written notes during the pre-observation conferences. From the post-observation conferences, it was evident that all coaches also took extensive notes during the observations which included the specific data that had been requested during the pre-observation conferences. The peer coaches referred to these notes during the post-observation conferences. The ICT peer coach at School 1 typed up her notes following the observation session and emailed them to her learners prior to the post-observation conference. These notes, no more than two pages, were generally under the headings of Focus, Summary, Good Points, Overall and Questions. As such, they provided a description of the session observed, not just the specific data that had been requested by the learner, and were non-judgemental. The Questions section included questions which could help identify possible next steps for the learner. When questioned on the value of the peer coach's notes during the Term 4 interviews, both learners at School 1 found the notes to be valuable and commented on the positive feedback they provided. Learner 1 also commented that she would underline

areas of the feedback that highlighted her strengths as a reminder for future lessons “... when you teach you don’t realise what you’re doing, but it’s explicitly down there so I think it will help me plan because it reassures ...” (S1.L1.I2.L126–127).

Both learners at School 3 found the verbal feedback in the post-observation conferences to be valuable and sufficient. However, the ICT peer coach at School 3 took very detailed notes during the observation and went through these thoroughly with both learners. It may have been because of the rich nature of these discussions that both learners commented during the Term 4, 2007 interviews that written notes of the main points discussed would be helpful to refer back to at a later date. Learner 2 commented that “perhaps a more formal template, you know, this is the main points that we discussed, and this is where we are going to take it and some timelines for implementation” (S3.L2.I2.L138–140). The situation was different with Learner 2 at School 2 who highlighted the positive feedback as being most valuable: “I don’t need any written things. I get the positive reinforcement which drives me further to extend what I’ve learned and I’m happy with that” (S2.L2.I2.L177–179).

None of the peer coaches made the specific observation data, such as the checklists and PMI chart available as handouts to their learners, nor did the learners ask for this. From the comments highlighted above, it would seem that overall feedback was what the learners were seeking. This was highlighted by Learner 2 at School 1 who said “what’s important is the feedback she is giving me, the ‘have you tried this, have you tried that?’” (S1.L2.I2.L180–181). However, it raises the question of whether they would still hold this view if they were also given the specific data and whether it would help influence their classroom practice and focus for subsequent coaching cycles. This would be worth pursuing to see if the learners did in fact find the data useful and how they might use it beyond the coaching cycle. Furthermore, none of the learners took any notes during any of the pre- or post-observation conferences (Appendix 2, Observation protocol). This raises two important questions. First, without documentation, how were the learners keeping track of evidence of their professional growth to build a picture over time which would help them plan future professional learning activities? Second, how were the learners using the understanding gleaned from the coaching cycles to develop their skills, reflect at a deeper level and change their pedagogy? Documenting their learning would enable them to take an evidence-based practice approach, adapting and enhancing their

classroom practice based on tangible, objective data, feedback and their own reflections but this would need to be done in a manageable way. Both of these questions will be revisited in Chapter 5.

4.8 ICT Peer Coaching Programme – Reporting and Evaluation

During the Term 1, 2007 interviews, all three principals had an expectation that there would be some form of reporting back to them at the end of the year. As the Term 1 interviews had taken place early in the school year, the principals of Schools 2 and 3 thought it was too early to determine what details would be required, while the principal of School 1 commented that “there will be some kind of feedback opinion survey of the programme, and a report back to the school, and to all the staff, on the successes and the progress that’s been made” (S1.P.I2.L217–219). When the issue of an end-of-year report was raised with the principals again in the Term 4, 2007 interviews, the expectation was still there, but it had not been formalised in any way. However, the principal of School 3 had specific information he was seeking about the peer coaching programme:

Yes, I really want to know how comfortable staff are, being asked to keep increasing their knowledge in this particular area. Should there be a down time to consolidate or is it always continuous growth and will that then have a negative effect ...

(S3.P.I2.L159–162)

School 1’s *ICT Peer Coaching Program Handbook* identified regular meetings between the peer coaches and administration for the purpose of providing feedback on the programme’s implementation (S1.A8). The peer coach at School 3 had anticipated that some form of end-of-year reporting back to the principal would be completed, though no details had been worked out when asked about this during the Term 1, 2007 interviews. However, as both of these schools had a team of peer coaches in place, with at least one member who was part of the school leadership team, there was an opportunity at least for regular, informal reporting back to the principal. This was also the case with the peer coach at School 1. She too, hadn’t discussed any reporting back requirements with her principal at the time of the Term 1 interview, but then became part of the school’s ‘Leaders as Learners’ team, established to support preparation for Performance and Development Culture accreditation, and therefore had opportunity to provide feedback on the peer coaching programme to the school’s leadership.

Given the significant investment in the peer coaching programmes at Schools 1 and 3, and the fact that it was in trial mode at School 2, it is perhaps surprising that a formal reporting procedure and timeline was still not in place in Term 4. Schools 1 and 3 had also documented how the peer coaching programmes were to be evaluated – School 1 in its Handbook and School 3 in its eLearning Plan (S3.A4) – yet no follow-up had taken place on these.

Despite the absence of formal processes to capture implementation strategies and data from the peer coaching programmes that were implemented, there was evidence in the Term 4, 2007 interviews to show that some sharing of the learning from the programme did take place in two of the schools. At School 1, Learner 2 in his role as Year 5/6 Coordinator provided a weekly professional learning session for his team and so some of the learning he developed through working with his peer coach would filter through. Learner 1 at School 3 had formally shared some of the ICT applications she was working on with her peer coach at English domain (faculty) meetings, one of the largest domains in the school. She also had informal discussions with staff members and provided “just-in-time” professional learning for various teachers by working with them in their classrooms to get started with different ICT applications such as blogs. Learner 2 at School 3 also informally shared some of her learning with the Maths domain colleagues. Once again, this sharing could be enhanced if greater expectation through genuine reporting requirements was in place.

4.9 Benefits of the ICT Peer Coaching Programme

The ICT peer coaches, learners and principals were asked about the perceived benefits of the peer coaching programme in the Term 1 and Term 4, 2007 interviews. For the learners, one of the key benefits they highlighted was the level of support they were given as they felt this helped them increase their ICT skills and confidence in the use of ICT, as the following quotes show: “It gives me confidence. I learn skills. I apply them in my lessons alongside the peer coach and this helps me remember [them]” (S1.L1.I1.L146–147); “Had I not done the peer coaching, I’d probably still be wallowing in less time to do things because I’m having to do it the hard way ...” (S2.L2.I2.L191–193); “It’s definitely impacted on my skills in that I’m a lot more confident when I approach something now that I need to try and learn how to use ... I am not necessarily hesitant

about approaching it” (S3.L1.I1.L134–138). The benefits of having a colleague come into the classroom to model or team teach was seen as beneficial by learners. Learner 2 at School 3 noted:

... to pick up things from other people’s experience has been really beneficial for me. Just little things in the way you might phrase something or structure something or design a particular part of your curriculum that perhaps experience lends rather than doing it from the top of my head when I’ve only been doing it for two and a half years. (S3.L1.I1.L9–13)

Learner 1 at School 1 had similar thoughts “And also I guess hearing her, what sort of language she uses to direct the students when they get stuck” (S1.L1.I1.L136–137).

The individualised support which peer coaching offered was also highlighted by learners as a benefit. Working one-on-one with a peer coach provided a safe supportive environment. “I found it good in that it was a one-to-one relationship too, because I felt threatened more in a big group” (S2.L2.I2.L27–29). Two of the coaches also saw the individualised support as a benefit for learners and as the peer coach at School 3 described:

Having a person actually in the field with you is I think far superior to merely having a lecture style discussion...It gives them I suppose much greater confidence, they’re more willing to take risks and so on because they have someone there if it falls over (S3.PC.I2.L241–248).

Reflections by the learners during the post-observation conferences provided further insights into the benefits of peer-coaching. The relaxed, informal conversations with their coach provided the learners with an opportunity to think back over the lesson; in articulating their thoughts they were able to clarify their thinking processes and refine their teaching strategies for future use.

... one of the goals is not to skim over things, thinking that the kids have already done it and that’s exactly what I did do. Then, but then I did pick up on that myself which I suppose is a good thing
(S1.L2.Post2.L61–64)

Well just the ... way they were doing it and then when they had to go to the computers behind them and actually do it that was good for me too because then I could see which children were very confident and they were actually helping the others.
(S2.L2.Post2.L113–116)

It started off very badly, obviously we had some technical hitches. The space itself was not ... I think that was part of the problem. But I think towards the end I could definitely see that it worked. It did work. And I think the students responded very well to it.

(S3.L1.Post3.L107–111)

Learners also felt their students benefited from being coached. While the impact of ICT peer coaching on students was outside the scope of this research, the learners identified increased opportunities for students to be using ICT in the classroom and increased student engagement as flow-on effects of their involvement in the coaching programme.

Peer coaches also benefited from their role and all three coaches acknowledged how their role as a coach had helped them grow professionally.

As a coach it's just great to be seeing all the different things that are happening in other classrooms. You get so many new ideas and you learn so much from working with other coachees [learners]. And also the fact that sometimes as a coach, you are out of your comfort zone and you're there learning new things alongside the coachee and that's where the coaching really works the best because you're learning together, supporting each other.

(S1.PC.I2.L89-94)

For me, I've had the opportunity to be invited into other people's classrooms and see how they teach and I've learned things that I could do better in my own teaching.

(S2.PC.I2.L13–15)

I get some fantastic ideas working with brand new teachers who are young enough to be my children. Sometimes they come up with fantastic ideas and sometimes all they need is a little idea of what resources are available or how they might use them. Sometimes I feel it's me that's the coachee.

(S3.PC.I2.L293–297)

Taking the time to think deeply about classroom practice, to have a colleague regularly available with whom to reflect and who will ask probing questions and therefore help guide even deeper thinking is a valuable strategy to support teacher professional learning, as we have seen. Doing so can enable teachers to be regularly refining and improving their skills and understanding of effective classroom practices guided by an objective, supportive colleague. Yet the study also showed that there are some obstacles and challenges which can hinder the efficient running of an ICT peer coaching programme in a school, thereby impacting on its potential.

4.10 Challenges

There were a few challenges which were identified by the ICT peer coaches and learners, but as can be expected, lack of time was the main challenge identified. This was briefly discussed from a peer coaches' perspective in 4.7.2 Scheduling of Pre- and Post-observation Conferences, where release time for coaches and/or learners was impacted upon by the availability of other staff members. For the learners, lack of dedicated peer coaching time meant that pre- and post-observation conferences with their peer coaches would take place in their own time – before or after school, during recess or lunch breaks or during their Administration and Planning Time (APT), and even this could be problematic as whole school events or activities such as sports days or schools excursions impacted on scheduling. As Learner 1 from School 2 described it “I think I’ve seen it more as a burden because it’s eaten into my time ... It’s not quality time when you’ve got to take time from somewhere else” (S2.L1.I2.L61–64). Yet the length of pre- and post-observation conferences, as shown in Table 8, indicates that the issue of time may not have been as great as stated, as the time taken for the conferences was less than 30 minutes each, with some taking less than seven minutes.

Table 8. Length of Pre-observation and Post-observation Conferences

Term 2	Pre-observation Conferences	Minutes	Post-observation Conferences	Minutes
	School 1, Learner 1	8.28	School 1, Learner 1	12.23
	School 1, Learner 2	11.45	School 1, Learner 2	17.51
	School 2, Learner 1	14.30	School 2, Learner 1	13.45
	School 2, Learner 2	12.33	School 2, Learner 2	7.00
	School 3, Learner 1	19.29	School 3, Learner 1	17.57
	School 3, Learner 2	13.12	School 3, Learner 2	17.50
Term 3	School 1, Learner 1	6.51	School 1, Learner 1	12.03
	School 1, Learner 2	10.30	School 1, Learner 2	11.45
	School 2, Learner 1	12.14	School 2, Learner 1	6.47
	School 2, Learner 2	7.17	School 2, Learner 2	6.38
	School 3, Learner 1	18.15	School 3, Learner 1	23.48

	School 3, Learner 2	14.54	School 3, Learner 2	26.14
		147.48/12 = 12.29mins		171.21/12 = 14.26mins

The average time required for a pre-observation conference in the study was approximately twelve and a half minutes and approximately fourteen and a half minutes for a post-observation conference. However, it should be remembered that in addition to time required for the pre- and post-observation conferences was time for the learners to explore and develop skills in the use of a new hardware and software, where required, as discussed in 4.7.5 Practising the Use of ICT to Develop Skills. This was highlighted by Learner 1 at School 1 who identified lack of time to develop her skills in the new technologies and applications she was working on with her peer coach as a challenge, saying “There isn’t much time for me to actually go away and practise any software programs, and play around with new technologies that I’m trying to learn with my coach” (S1.L1.I1.L63–65). No time allocations for learners to practise was included in the data set, but time to learn about and practise new technologies and software could potentially require the greatest time allocation, depending on user ICT skill and confidence. Budget needs to be allocated in order to make time available to teachers, in addition to their APT. None of the principals in the study made specific reference to budget allocations to support the ICT peer coaching programmes in their schools. Indirectly, the establishment of a team of peer coaches such as was in place in Schools 2 and 3 would have required funding to cover those coaches in non-teaching roles or provision of additional time to support them in their coaching role. Time was not made available to any of the learners. A budget allocation to release both peer coaches and learners to meet is needed so that participation in the programme is valued as a professional learning strategy, not something else to be added into an already crowded school day.

In contrast with the other learners, Learner 2 at School 1 did not see lack of time as an issue and felt that other support was available from the school administration which enabled him to focus on ICT-related projects or professional learning. “I haven’t had release if I need to meet with [my peer coach], however the support from Admin is second to none. If I need a day to do video-recording with my kids, then I get a day” (S1.L1.I2.L262–264). It should be remembered that Learner 2 was already highly skilled

in the use of ICT and so may have been able to argue more strongly about why the time was required and how the students would benefit. Also, this learner was playing a leading role in the implementation of the *Next Practice Design Teams* project at the school which could have been used to fund his extra time requirements. However, the inequity is worth noting.

In addition to time, the peer coaches briefly touched on a range of other challenges such as keeping learners motivated, helping them overcome the fear of having someone come into their classroom to observe them and encouraging them to be more open about sharing their learning with other staff members. However, these were not presented in a way that indicated a major impact on their work. In contrast, some of the learners commented on the impact of being observed by the peer coach, even though all learners seemed quite comfortable talking with their coaches during the pre- and post-observation conferences and did not identify this as a challenge. Learner 2 at School 1 commented during his first post-observation session that he had had to concentrate on “doing the right thing and saying the right thing” (S1.L2.Post1.L7–8). Learner 1 at School 1 noted in her post-observation session in Term 3 that she had been conscious of speaking too long with her students and needing to get to the part of the lesson that the peer coach was there to observe. Both of these examples perhaps indicate slight changes in the ways the learners took their lesson as a result of the presence of a peer coach, but these impacts appear to have been minor. Perhaps the greatest impact was felt by Learner 2 at School 2, as she was very nervous about being observed, heightened by the fact that the observation was of the first time she had used the SmartBoard in the classroom as this quote shows: “Well, I just knew you were in the background, but I wasn’t scared of you or anything but it was just the fact that ... my peers were watching me” (S2.L2.Post2.L71–73). Yet despite this comment, the researcher noted in the observation protocol for this learner that she seemed buoyed by her successes during the lesson (S2.L2.Post2.OP). Furthermore, the researcher noted in the Term 3 observation protocol that the learner was smiling and seemed more confident about her use of ICT (S2.L2.Post3.OP). It seems from this learner that the benefit of being coached would outweigh the initial anxiety she felt in being observed.

4.11 Links to Performance and Development Culture

This study examined the question of “Does peer coaching as a professional learning strategy support teachers’ integration of ICT into their learning and teaching programmes?” Having examined the ICT peer coaching programmes in place in the three schools, along with the benefits and challenges as perceived by the peer coaches and learners, what role if any, did peer coaching have in supporting the Performance and Development Culture in each of the schools?

Performance and Development Culture, as described in Chapter 2, was a Flagship Strategy in the 2003 *Blueprint for Government Schools* (Department of Education & Training, Victoria, 2003a). Peer coaching has the potential to support Element 2 (multiple sources of feedback) and Element 4 (customised professional learning) of the Self Assessment Framework.

School 1 gained its Performance and Development Culture accreditation in 2006. As a new school, going through the process of preparing for accreditation provided the impetus to formally document and fine-tune processes and programs with staff input. The principal saw peer coaching as an integral element of Performance and Development Culture with the sharing of ideas and best practice making an ongoing contribution to the Performance and Development Culture within the school (S1.P.I1 and I2). The school’s Professional Development manual included a detailed section on each element of the five elements of Performance and Development Culture and what practices were in place to support them, with peer coaching included in each (S1.A5).

As with School 1, School 3 gained its Performance and Development Culture accreditation in 2006. In 2007, the school played an active role in supporting other schools from across the state to prepare for their accreditation by providing workshops and hosting school visits, for which they received support from the Department. In 2007, the school was also seeking to join the International Baccalaureate Organization and the Council of International Schools. The principal saw these as ways of strengthening the school’s Performance and Development Culture as it “forced us to look at our documentation, our procedures and our quality checks” (S3.P.I2.L33–34). He saw peer

coaching as having an important role in the context of Performance and Development Culture.

School 2 used 2007 to prepare for accreditation, which it planned to apply for in Term 3, 2008. The principal saw ICT peer coaching as potentially having a role to play in the preparation, with staff having the option of participating in the peer coaching programme which would provide one form of feedback (S2.P.I1). In the Term 1, 2007 interview, the principal said “Peer coaching I know to be a very successful model because it allows targeted feedback and [is] delivered in a context where there’s understood parameters so it’s very positive and targeted feedback” (S1.P.I1.L158–160). However, the potential role of the ICT peer coaching programme, particularly in relation to Elements 2 and 4 of the Performance and Development accreditation process overall was not highlighted by the principal in the Term 4 interview.

What of the peer coaches themselves? All three peer coaches could see a connection between peer coaching and Performance and Development Culture. For the ICT peer coaches at Schools 1 and 3, it was the way in which peer coaching supported teacher professional development by promoting collaboration, teachers working together to share knowledge and skills that was important (S1.PC.I1; S3.PC.I1). At School 3, the ICT peer coach saw the peer coaching process as a way of sustaining performance and development within a school once the initial accreditation had been received.

Once you’ve got that accreditation the part now we have to worry about is [to] keep it and clearly coaching helps you to keep that culture going ... Receiving feedback is a big part of P & D Culture components and coaching is clearly all about that, all about providing some official feedback mechanism.

(S3.PC.I2.L277–285)

While the principals and peer coaches were able to describe a connection between Performance and Development Culture and peer coaching, the learners’ perceptions of the link between the two were somewhat mixed. At School 1, Learner 1 appeared to have little knowledge of Performance and Development Culture, confusing it with the Performance Review process. Learner 2 believed peer coaching supported Performance and Development Culture, but could not describe any explicit examples. At School 2, Learner 1 was aware the school was going for accreditation and was aware of the five elements but didn’t make any connection with the role peer coaching could play, while

Learner 2 confused Performance and Development Culture with professional development. Both learners at School 3 had a better understanding of Performance and Development Culture and were able to articulate what they saw as links with peer coaching. Learner 1 was explicit in connecting the two and said the peer coaching made a contribution to the Performance and Development Culture because “we have a staff that feel they are highly trained and highly supported in what it is they are doing and I think the coaching role is crucial in allowing teachers to understand they are supported” (S3.L1.I1.L208–211). This gap of apparent understanding of Performance and Development Culture amongst many of the learners raises the question of whether the accreditation process was more a matter of compliance in schools or was taken on board as a strategy to strengthen the quality of learning and teaching in schools by all teachers.

Elements 2 and 4, described in Chapter 2, are well served through the classroom observation, data collection and professional conversations that take place in an ICT peer coaching programme. These can help create a culture in which teachers observing teachers in a non-judgemental, collegiate environment is the norm and a commitment to continuous improvement of classroom practice. As an on-site professional learning strategy, it can enable individualised, ongoing professional learning, further strengthening and maintaining the Performance and Development Culture post-accreditation. Yet explicit connections between Performance and Development Culture and peer coaching were not capitalised upon in Schools 1 and 2. As was the case with these schools’ Strategic Plans, eLearning Plans and teacher professional learning, an opportunity to tie key strategies together into a cohesive approach to support student learning was missed.

4.12 Summary

The snapshots of the three schools which participated in this study provided the context surrounding their ICT peer coaching programmes. In examining their Strategic Plans, eLearning Plans and level of ICT infrastructure, along with staff and student demographics and learning and teaching programmes, a picture emerged of the complexities, benefits and potential of ICT peer coaching as one professional learning strategy available to schools.

This study identified a number of elements of the ICT peer coaching programmes in the three schools which were not found in the literature. The longer term nature of the peer

coaching relationship was different to the short-term duration identified in the literature, as was the inclusion of ICT “practice” sessions as an optional element in the coaching cycle. This was discussed in 4.7.5 Practising the Use of ICT to Develop Skills and was where the learner would practise the use of the technology that was to be used during the observation, either alone or with the help of the peer coach. To have peer coaching as the driver for the practice, with someone on hand to assist, highlights the value of ICT peer coaching.

The most important difference was the strong focus on pedagogy in the peer coaching programmes studied in the three schools. The research demonstrates that ICT peer coaching, as a professional learning strategy, does support teachers’ integration of ICT into learning and teaching. While there were many instances in the literature that highlighted the need for professional learning to include the development of teachers’ pedagogical understandings, there was very little that examined what it would look like in an *ICT* peer coaching context. In this study, all three schools had pedagogy and change to teacher practice as a significant component of their programmes and demonstrated the coaches’ roles to be that of “techno-pedagogues,” addressing both ICT skills development with strategies to integrate ICT into the curriculum.

Examining the reasons why the ICT peer coaching programmes were established in each of the three schools, and how they were supported and implemented, can be used to provide signposts to inform other schools that may be interested in setting up their own school-based model of ICT peer coaching.

These signposts have been used to develop an ICT peer coaching model presented in the *teacher2teacher: Peer Coaching for ICT* wiki (<http://teacher2teacher-peercoaching-for-ict.wikispaces.com/>), developed as the project component of this study. The wiki is composed of four sections. The first section provides an overview of effective professional learning and the differences between peer coaching and mentoring and is intended for teachers and school leaders who may be interested generally in ICT peer coaching. It presents the ICT peer coaching cycle, made up of the pre-observation conference, observation session and post-observation conference, with an optional ICT skills or practice session. The importance of a goal-based peer coaching goal to underpin the individual cycles is also discussed. Section 2 is for school leaders and provides a

school-wide context for ICT peer coaching, making connections between the goals identified in the school's strategic plans through to the learning goal(s) identified by the learner; the steps needed to establish an ICT peer coaching programme are provided, supported by templates to assist school leaders to commence the process. Section 3 is for ICT Peer Coaches, or those who might be considering the role. As with Section 2, a range of templates are provided to give practical guidance in the areas of preparing for the role, working with learners through all stages of the ICT peer coaching cycle and evaluating the implementation and success of the programme. Section 4, provides links to resources such as other websites and videos that could be used to further develop a user's understanding of ICT peer coaching.

Chapter 5 presents a summary of the conclusions from this study and a number of recommendations and presents the content of the *teacher2teacher: Peer Coaching for ICT* wiki in greater detail.

Chapter 5

Conclusions and Recommendations

5.1 Introduction

In an increasingly technological world it is essential that students are prepared for their role as twenty-first century citizens. As discussed in Chapter 2, there is even greater imperative for new models of teacher professional learning to support the integration of Information and Communication Technologies (ICT), where collaborative and reflective learning takes place in teachers' classrooms and where the focus is on improving classroom practice (Darling-Hammond, 2005; Elmore, 2002; Galatis & Williams, 2009; Sandholtz & Scribner, 2006). The findings from the study highlight how ICT peer coaching can assist teachers to develop new pedagogies to support the use of ICT. Collectively such changes to learning and teaching can contribute to the achievement of the goals identified in the Melbourne Declaration (Ministerial Council on Education, Employment, Training and Youth Affairs MCEETYA, 2008).

Also as discussed in Chapter 2, this 2007 study coincided with a time of education reform in Victoria, Australia and included in the first *Blueprint for Government Schools* (Department of Education & Training, Victoria, 2003a). The Performance and Development Culture strategy and the introduction of the Victorian Essential Learning Standards (VCAA, 2005) in particular, created a further imperative for ongoing professional learning for Victorian teachers.

Chapter 3 presented the qualitative, constructivist approach on which this study was based. By examining the processes that underpinned the ICT peer coaching programmes in the three schools and through the analysis of the data, this collective case study provided a lens through which ICT peer coaching as a professional learning strategy could be examined.

In Chapter 4, the data from the case studies collected through interviews, observations and artefacts was presented and analysed. The data was examined in the context of the schools' strategic planning, professional learning approaches and ICT infrastructure to

understand how their ICT peer coaching programmes operated to support teachers' integration of ICT into classroom practice.

This chapter presents conclusions and recommendations based on findings from the ICT peer coaching models implemented by the three schools in the study and identifies strategies to build on these to increase their potential impact on teacher professional learning. It also explains the purpose of the *teacher2teacher: Peer Coaching for ICT* wiki, the project component for this study, and examines the wiki content in detail.

5.2 Conclusions

ICT peer coaching has been presented in this study as *one* professional learning strategy to support learners in the integration of ICT into learning and teaching; it is a model which reflects many of the characteristics identified in the literature of effective professional learning. The value of an ICT peer coaching programme has the potential to go beyond just the use of ICT. Creating an environment where colleagues can work closely together, observe classroom practice and provide feedback are key steps in developing a culture of continuous improvement and a shared responsibility for student learning. However, in order to be effective, support from the school leadership is required to develop a clear vision of the purpose of an ICT peer coaching programme, link the programme to the school's strategic goals and to provide adequate resourcing. An effective programme also requires willing and active learners and skilled ICT peer coaches.

The ICT peer coaching programmes of the three schools in the study, as they were implemented in 2007, provide a valuable insight into such programmes for those interested in teacher professional learning. The study showed that the role played by ICT peer coaches in the collection and analysis of observation data provided a foundation for professional conversations that were about evidence-based feedback and that guided reflective practice. Furthermore, the study also demonstrated that the collaborative, individualised partnership enabled learners to progress at their own pace while broadening meaningful opportunities for the integration of ICT.

The steps taken by the schools to establish the programmes, building upon past experiences, demonstrated a commitment by all involved to support teachers in the

integration of ICT into learning and teaching. The principals, ICT peer coaches and learners should be commended for their efforts. While the analysis of data in Chapter 4 identified a number of weaknesses common to the ICT peer coaching programmes in each of the three schools, addressing these weaknesses would help in developing a school-based model that supports purposeful change in teacher practice.

One of these weaknesses was the lack of time for ICT peer coaches *and* their learners to meet, and where required, for learners to explore the use of new technologies. Adequate time for professional learning is a challenge faced by many schools. While time to meet appeared problematic from the perception of the ICT peer coaches and learners in Schools 1 and 2, Table 8 (see Section 4.10) showed that the time allocation required to meet face-to-face was in fact not great. However, allocating time to meet and time to practise ICT skills where required, which is not in addition to teaching and other existing commitments, would acknowledge the value afforded to the programme by the school leadership to staff across the school. It also seems timely for the system to now make funding available to schools to implement their own ICT peer coaching programmes. In doing so, it would build on the coaching cultures that the Teaching and Learning and Ultranet coaches' programmes engender and acknowledge the system's valuing of school-based teacher-professional learning. However, with many competing system-level priorities and programmes, perhaps it is time for a high-level review of professional learning programmes and what can realistically be expected of teachers in addition to their classroom roles.

Another weakness was the lack of overall reporting or evaluation of the ICT peer coaching programme at the whole school level. All three principals of the schools involved in this study provided support for their ICT peer coaching programme and had expectations of final reporting at the end of the year which did not eventuate. Planning for 'regular updates' and 'evaluation' is often a compliance mechanism for the introduction of new programmes in schools. Yet without follow-through, essential information on the successes, limitations and issues to inform decisions about the programme's future, is missing. It could also signal to staff a 'disconnect' between the principal and the programme, de-valuing it and its potential.

A further weakness was the lack of cohesion between the schools' Strategic Plans, Annual Implementation Plans, eLearning Plans, Performance and Development Culture and ICT peer coaching. The school leadership has a crucial role to play in ensuring that all of these plans, as well as any key programmes or initiatives which are in place at the school, have a purpose and clear direction in contributing to the achievement of school goals.

The study also revealed some weaknesses at the programme implementation level. The first was that in the pre- and post-observation conferences, no mention was made of any standards from the Victorian Essential Learning Standards (VELS) and how the focus for that coaching cycle could contribute to student learning and the achievement of identified standards. Second, there was no evidence that the coaching cycles were evaluated by the peer coach and/or learner before the following cycle took place, so there did not appear to be any connection between the coaching cycles.

Finally, it was evident through the study that the learners had little idea of the type of data that could be collected by the ICT peer coach and how the data could be used to inform their classroom practice. While the ICT peer coaches in all three schools made suggestions as to what data could be collected in relation to their learners' specific coaching cycle, they did not provide any general information about possible data types nor guidance as to how the presentation of data could support them in achieving their goals. Providing samples of possible data – observational as well as through artefacts – could assist learners as they plan for their coaching cycles to hone in on the areas of their practice they would most like to improve.

5.3 Recommendations

The ICT peer coaching programme in place in each of the three schools examined in this study highlighted many positive elements and practical ways to support the implementation of a successful programme. However, as the discussion in Chapter 4 and the conclusions presented above demonstrate, there are some elements of the programmes that could be improved. The recommendations described below build on many of the elements found in the ICT peer coaching programmes in place in Schools 1, 2 and 3 and so provide an enhanced ICT peer coaching model.

5.3.1 School-based ICT Peer Coaching Plan

Developing a comprehensive school-based ICT Peer Coaching Plan which makes explicit links to other school strategic plans can contribute to a culture of ongoing professional learning where continuous improvement in teacher practice and improvement in student learning are central. A well-developed plan will ensure that key elements of a successful programme are in place from the outset.

As this study showed, while the three participating schools all had various strategic plans in place, there was no cohesion between these plans and reforms in place such as Performance and Development Culture. The role of ICT, despite huge investment by the Victorian education system and the schools themselves, was also not explicit. In addition, despite the schools' commitment to ICT peer coaching, steps to embed it within the Performance and Development Culture and the implementation of the Victorian Essential Learning Standards to support student learning, were not evident.

In a Victorian education context, developing a comprehensive ICT peer coaching plan which draws upon the school's Strategic Plan, Annual Implementation Plan, eLearning Plan, and Professional Learning Plan could demonstrate to staff that peer coaching is *one* strategy the school is using to move towards its identified goals. Contextualising the peer coaching plan in this way could also 'refresh' the school's Performance and Development Culture beyond accreditation by using coaching to provide one form of feedback and offering professional learning that is school-based and ongoing.

Once the links to the school's strategic plans have been made, the ICT peer coaching plan must then address the steps that will be needed to support its implementation in the school, such as the selection and professional learning for peer coaches, budget to support the programme and reporting and evaluation. These elements are elaborated upon below.

5.3.2 Selection of ICT Peer Coaches

The selection of suitable peer coaches needs to be carefully considered at the planning stage. It does not necessarily follow that a good teacher will make a good peer coach. The literature in Chapter 2 identified skills, such as the ability to create a supportive and trusting relationship and provide non-judgemental feedback, good communication skills, the ability to ask questions that will draw out the learner and active listening skills, as

essential for any peer coach (Lapp, Fisher, Flood & Frey, 2003; Clayson, 2006; McCoy, 2006). In addition to these, an ICT peer coach would also need to have an understanding of sound pedagogical practice and ICT skills in order to be an effective “techno-pedagogue”. All of these skills were demonstrated by the peer coaches in this study. These elements could be used by the principal or school leadership team to help guide their selection process for ICT peer coaches in their school.

The selection of learners for the programme also needs to be considered. The learners who participated in the study were all volunteers. If the opportunity to participate in the ICT peer coaching programme is “invitational”, learners who join are more likely to have a genuine commitment to their professional learning and demonstrate characteristics of good adult learners. These would include such things as being active and engaged participants, taking responsibility for their learning and working constructively with their peer coach to achieve their goals (Zemke & Zemke, 1984; Brookefield, 1986; Knowles, Holton & Swanson, 2005). Being active learners is also essential to being reflective learners (Boud, Keogh & Walker, 1985; Brockbank & McGill, 2006).

Finally, the matching of peer coaches with learners needs to be considered. A careful match-up of preferred learning styles and experiences would contribute to a more effective peer coaching partnership. Logistical elements such as the location of coaches and learners, timetabling issues and access to ICT would impact on the ease with which peer coaches and learners are able to meet and therefore could impact on the success of the peer coaching partnership.

5.3.3 Professional Learning for ICT Peer Coaches

The study raised the issue of ongoing professional learning for peer coaches and this should be factored into any school ICT peer coaching programme. Having a team of peer coaches – or at least two – in the school would give them an opportunity to debrief with colleagues who understand the requirements of the role, which would be helpful if a peer coach is struggling in his/her work with a particular learner. Setting up structures and the expectation that coaches will also coach each other can help maintain a high standard of peer coaching. Elements such as questioning techniques, methods and type of data

collection, and quality of feedback, all need to be part of the peer coach's own ongoing professional learning.

As ICT peer coaches, they should also have the opportunity to keep abreast of new and emerging technologies, have time to experiment with them and also to try different pedagogical approaches that would be better suited to the type of learning potential made possible by new technologies and software programs. In doing so, they would be developing their ICT skills, but more importantly, be in a position to model and discuss real classroom examples and experiences of how to plan for, implement, manage and assess ICT.

Professional learning for ICT peer coaches is one area that should be addressed at a systemic level. The role of the system should be that of facilitator, creating a participatory and collaborative culture where the professional learning is driven by the needs of coaches. It should support coaches to reflect on their own coaching practice and offer an opportunity for them to share ideas and observations on pedagogical practice using ICT. It would provide an impetus which would build the capacity of teachers as peer coaches who have a strategic role to play in their schools in supporting teachers to integrate ICT to support student learning. ICT peer coaches could also be supported to develop deeper understanding of reflective learning, so they are better able to guide their learners to learning that is transformational (Brockbank & McGill, 2006).

Professional learning for ICT peer coaching could be delivered online using an online conferencing tool, which would enable such learning to take place regularly as coaches would not have to travel to another location and no teacher replacement costs are required. It also makes use of the technology and a range of skills such as the use of the online tool itself as well as online facilitation skills, which the coaches can then model with their own learners. If budget is available, occasional face-to-face sessions could take place, particularly at the beginning, to nurture the relationships between participants.

5.3.4 Budget

The allocation of budget must be considered when planning a peer coaching program. On the surface, peer coaching may appear to be a cost-neutral professional learning strategy. After all, coaches are drawn from within the school to coach learners within the school,

so what cost could there be? But as demonstrated by the three schools in this study, time for the peer coaches to meet with their learners at all stages of the peer coaching cycle including time to develop skills in the use of new technologies, is critical. If peer coaching is to be genuinely valued as a professional learning strategy, then those involved must be given time to allow it to happen, without the assumption that it will occur in their own time. Peer coaching is a *cost effective* strategy – no travel costs, no conference registration costs, no guest speaker costs – but it is not cost-neutral.

The cost of replacement teachers could make peer coaching prohibitive in some schools, however, some options are available for consideration. As Table 8 (see Section 4.10) demonstrated, the time required for pre- and post-observation conferences is generally less than 30 minutes, making it possible for these sessions to occur as part of the school's regular meeting schedule. A dedicated allocation of time for peer coaching as part of a staff, faculty or professional learning meeting would provide a regular time for pre- or post-observation conferences to occur and embed peer coaching in the school's professional learning culture. An allocated time may also serve to counter-balance times where coaches and learners may need to meet during lunchtimes, recesses or planning times. In doing so, it could help to embed reflective practices as a cultural norm within the school, potentially impacting on other areas of professional learning. Where no such arrangements can be made, alternative incentives such as priority access to new technologies could be offered. However, this still does not resolve the issue of time required for the classroom observations to take place. Budget to ensure the peer coach and learner have a dedicated coaching time and are not required to use their Administration and Planning Time (APT) reinforces the message that the programme is valued by the school leadership.

The duration of peer coaching relationships may also need to be considered where the demand for coaching by potential learners outweighs the number of peer coaches available. As was seen from the study, all three peer coaches worked with their learners for a year. In schools where there is a limited budget or where sufficient teachers able to take on the role of peer coaches are not available, then the duration of the relationship needs to be considered. However, such decisions should be made in relation to the needs of the individual learner and the number of coaching cycles required to achieve his/her goals so that the quality and integrity of the programme are not jeopardised.

Systems should also be looked upon to support schools through an allocation of funds specifically for the implementation of ICT peer coaching programmes. Accountability measures would need to be put in place by the system, such as the requirement that peer coaches participate in ongoing professional learning to support their role as well as reporting and evaluation requirements.

5.3.5 Reporting and Evaluation

As shown in 4.8 ICT Peer Coaching Programme, Reporting and Evaluation, some reporting on the implementation of the peer coaching programmes had taken place during the year through leadership team meetings but no formal evaluation of the programmes had occurred, despite this being identified as an expectation by all three school principals. This reporting and evaluation would help to monitor not only the progress of the ICT peer coaching programme in relation to its goals, but also against the broader strategic direction of the school. High level and strategic data, at both learner and student level, would provide a strong basis from which the impact of the programme could be assessed and also inform future planning for school-based reforms. In a Victorian education context, data such as that collected through the *Principles of Learning and Teaching: Leading Change Programme* (Department of Education & Training, Victoria, 2004) and the survey in the *ePotential ICT Capabilities Resource* (Department of Education and Early Childhood Development, Victoria, 2007), as well as student achievement data captured through VELs would be key sources of data.

The elements described in this section assist a school to develop an ICT Peer Coaching Plan which is contextualised in the broader school strategic planning. Viewing ICT peer coaching within this context helps justify a budget allocation as the benefits of a well-planned programme would extend into key school-based initiatives and reforms. In doing so, peer coaching can become a part of the fabric of the school and not an isolated programme for teachers to squeeze into an already demanding workload.

5.4 ICT Peer Coaching Goals

Figure 2 shows the peer coaching cycle used by the three schools. It includes a pre-observation conference, observation and data collection and post-observation conference, with an ICT Skills/Practice session as an optional step, if required. Following the post-observation, a new coaching cycle commences.

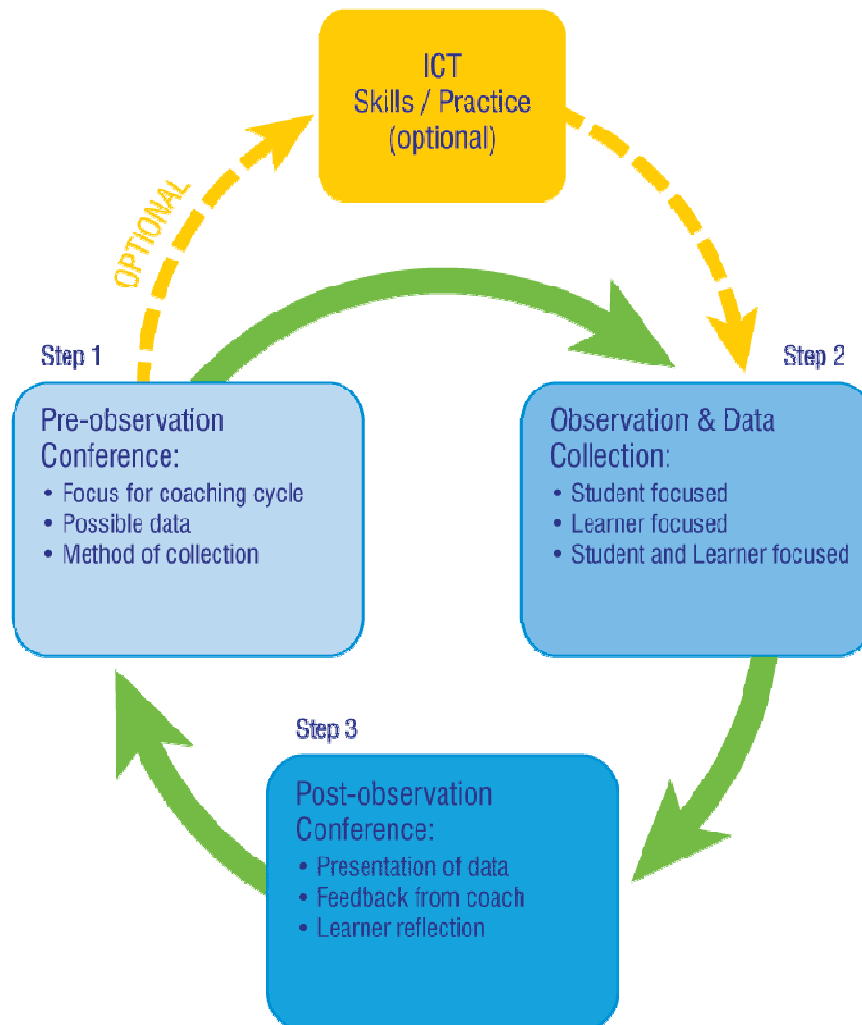


Figure 2. ICT peer coaching cycle

The number of peer coaching cycles may vary for each learner and is influenced by such factors as the needs of the learner, the complexity of his/her goal(s), as well as the availability of time for the peer coach and learner to work together.

While this cyclical approach to ICT peer coaching provides professional learning that is learner centred and reflective, it can lead to a series of discrete, episodic coaching cycles taking place without a clear overall direction. As such, it may be more suited to development of an ICT skill or as a refinement or refresher of an existing classroom practice. But as a model to support transformational change to learner practice and to improve student achievement in the use of ICT, a number of inter-connected cycles would be required to allow ICT skills and understandings to develop over time and provide a deeper professional learning experience. One way to create this would be to identify a key goal to underpin the coaching cycles and, in doing so, strengthen the peer coaching programme in a number of ways. First, having an overall goal would enable greater clarity between the goal(s) of the learner and the key school strategic goals. Second, a sustained focus on developing skills and pedagogical understanding over a longer period of time would allow for richer data to assess what impact, if any, the coaching is having on improving the learner's classroom practice. Figure 3 demonstrates what a goal-based coaching model for ICT peer coaching could look like.



Figure 3. Goal-based coaching model for ICT peer coaching

5.5 ICT Peer Coaching Portfolio

As was discussed in 4.7.8 Documentation by ICT Peer Coaches and Learners, there was no formal documentation by the peer coaches during the pre- and post-observation conferences. While a Plus, Minus, Interesting chart and checklists were used to collect observational data, these were not then given to the learners. None of the learners took notes during any stages of the peer coaching cycles. This lack of formal documentation might contribute to the easy management of each coaching cycle and make it less intrusive to a teacher's busy working day. However, without the documentation of what was planned, what worked and what didn't, the key learning gleaned through the observation, feedback and reflections, can be diminished. Documentation becomes even more important if, as has been recommended, a number of coaching cycles are planned as steps towards a broader goal, allowing a picture to build up over time. The development of a portfolio would also assist reflection-on-action (Schon, 1987), providing a rich source of data which can remind the learner of what occurred, challenge him/her to investigate further and provide a basis for professional dialogue (Bailey, Curtis & Nunan, 1998). Developing an ICT Peer Coaching Portfolio, to which both the learner and peer coach contribute, creates a source of evidence-based practice to demonstrate the professional growth of the learner and the value of the ICT peer coaching programme overall. The elements of an ICT Peer Coaching Portfolio are described below.

5.5.1 Learner's ICT Peer Coaching Plan

A goal-based peer coaching partnership that involves a number of peer coaching cycles requires planning to help keep the learner (and peer coach) on track and ensure that each cycle progresses towards the identified goal(s). The development of a plan would be the first step in a newly established peer coaching partnership and could be completed collaboratively by peer coach and learner. It should describe the key goal(s) the learner is planning to achieve and set out possible different coaching cycles and the focus for each one, timelines, milestones and possible strategies, and data that will be collected as evidence of progress. This may not be completed fully in the first meeting as it will depend on how clearly the learner is able to articulate his/her goal, his/her level of ICT expertise and confidence and his/her pedagogical understanding. The learner should consider whether any baseline data needs to be identified at the beginning of the coaching

process to support future monitoring and evaluation, such as data identifying his/her current level of ICT skills and understanding and any student data required, particularly VELS data or data on the future Australian national curriculum to be introduced in 2011. Data required at the school level as part of the evaluation process should also be factored in. The Learner's ICT Peer Coaching Plan should be seen as a 'work-in-progress' and should be re-visited and updated at the end of each coaching cycle. In assisting his/her learners in developing their plan, an ICT peer coach could consider the types of sub-questions he/she could ask which may help clarify their thoughts about the plan.

5.5.2 ICT Peer Coaching Templates

A series of templates provided in the portfolio would reflect the learner's journey through the pre-observation conference, the ICT Skills/Practice session where they occur, and the post-observation conference for each ICT peer coaching cycle.

The pre-observation conference template should include the focus of the coaching cycle, details of observational data to be collected (student and/or learner data), the format of the data and organisational details such as date, time, location and specific ICT requirements for the observation session. Details of any ICT Skills/Practice sessions required should also be included. These elements would be completed by the learner and peer coach. The peer coach would also add details of the data collection tools that are to be used such as templates, checklists, graphic organisers such as a Plus, Minus, Interesting or Venn diagrams or electronic data such as videos or digital images.

It should be noted that external forms of data were not used by any of the peer coaches or learners in the study. However, these could include artefacts such as student work samples, curriculum plans and samples developed by the learners to assess student learning. The learner may choose to make the collection and collaborative analysis of such samples the focus of a coaching cycle. As such, the ICT peer coaching cycle would look like that shown in Figure 4.

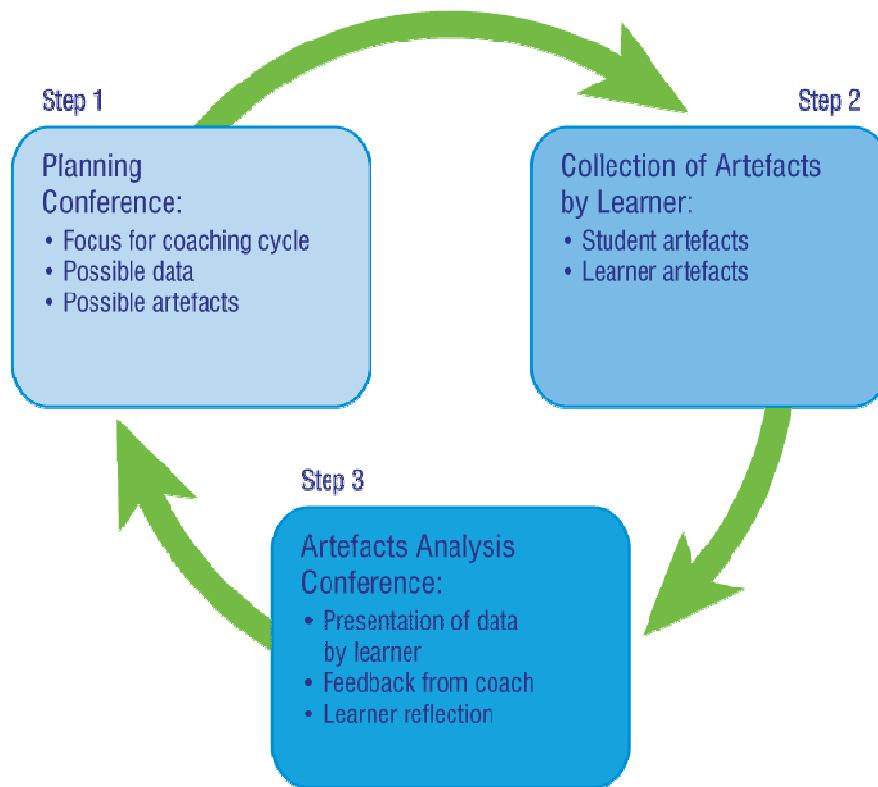


Figure 4. Artefacts and the ICT peer coaching cycle

Rather than the collection of observation data, the learner may require the peer coach to model the use of a particular technology or to team-teach, in which case the details of the pre-observation conference template would be adapted to reflect those requirements.

An optional ICT Skills/Practice session template should be included for use as required and this session may occur between a pre-observation conference and the observation session. In this template, the learner would describe processes such as steps taken to edit a movie or how to create a digital story using a specific application and this would be available for his/her future use.

A post-observation conference template would assist the learner to reflect on the data/artefacts that have been presented by the ICT peer coach in addition to the feedback provided. Finally, both peer coach and learner would revisit the Learner's ICT Peer Coaching Plan to see what progress has been made towards the identified goal and make any adjustments to the plan that may be required.

The use of these templates provides a form of journaling for the learner, serving as prompts to assist in planning for, and capturing, the learning as easily as possible. As

components of the ICT Peer Coaching Portfolio, the templates support the process of reflection, as the learner plans his/her actions, analyses those actions along with the data and feedback provided, and plans for future actions (Niday, Boreen & Potts, 2009; Moon, 2006).

The ICT Peer Coaching Portfolio should also include an ICT Peer Coaching Programme Evaluation Template. This is for the learner to complete at the end of his/her peer coaching programme. In including this in the portfolio it will serve as a reminder to both peer coach and learner that this is a requirement of the programme. The ICT peer coach can draw on this as part of the overall programme evaluation, but would not report on the individual progress of the learner, to ensure confidentiality.

Finally, the portfolio could also contain sample data collection templates. These could be used as a guide to the learner for the type of data that could be collected, which can be focused on his/her practice or on student learning.

The documentation described in Sections 5.5.1 and 5.5.2 covers all stages of the ICT peer coaching cycle and needs to be captured in such a way so that it is not onerous for either peer coach or learner. While not evident in any of the schools in the study, peer coaches and learners may wish to consider completion of at least some elements of the ICT Peer Coaching Portfolio, including completion of the templates, electronically. The principles and purpose are the same (Moon, 2006). Electronic templates could be stored centrally for access by both peer coaches and learners or emailed back and forth; learner reflections could be captured as audio files for the peer coach to listen to in preparation for the next conference. Alternatively, a blog or wiki could be established. Such strategies are not intended to replace face-to-face meetings between peer coaches and learners but a blend of face-to-face and electronic communication may provide time savings without impacting on the quality of any partnership. The use of technology also opens up strategies for data collection. These could include the use of digital images or video grabs of teacher classroom practice or students at work; electronic annotations of learner and student samples completed by both learner and peer coach; student feedback collected as audio files linked to samples of his/her work. This is not an exhaustive list, but is intended to indicate some of the possibilities.

An ICT Peer Coaching Portfolio would provide an immensely rich picture of professional growth supported by multiple sources of evidence. The portfolio would also be helpful to both learners and peer coaches when they re-visit the goals at the end of the peer coaching partnership. It would form the basis on which to formally “close-off” the process through a final evaluation supported by the cumulative data collected. The ICT Peer Coaching Portfolio would also provide a record of the peer coach’s strategies and methodology and enable him/her to look back over his/her own work or seek feedback from his/her own coach or critical friend.

5.6 Project Element of the Study

All of these results led to the development of a wiki as the project element of this PhD study. The *teacher2teacher: Peer Coaching for ICT* wiki (<http://teacher2teacher-peercoaching-for-ict.wikispaces.com/>) has been developed to provide a practical resource for principals, prospective ICT peer coaches and learners who are seeking general information about ICT peer coaching or who may wish to set up their own peer coaching programme.

Wikipedia, arguably the best known wiki site in the world, defines a wiki as “a website that uses wiki software, allowing the easy creation and editing of any number of interlinked Web pages” (Wikipedia, 2009). A wiki was chosen for the project component of this study as it models the use of one possible online tool which a principal, prospective ICT peer coach or learner could then adapt for their own ICT peer coaching programme. As was suggested in 5.5.2 ICT Peer Coaching Templates, an ICT peer coach and learner could use a wiki as the format for the ICT Peer Coaching Portfolio, creating a site that only they or others whom they choose to invite could access, where all of the elements of the portfolio could be available, data uploaded and feedback, comments or questions posted. In creating a wiki for the purpose of making available to users the ICT peer coaching model and supporting resources, the researcher has selected a tool that encourages participation and collaboration.

The *teacher2teacher: Peer Coaching for ICT* wiki has been created as a closed wiki for the examination process. The examiners will be sent the link to the wiki via an invitation. The wiki site will not be searchable via search engines such as Google. Once the examination process has been successfully completed, the wiki will be made public,

allowing it to be searchable via the internet. Content pages in Sections 1, 2 and 3 will not be editable, but any users of the site will be able to post to the discussions and add their own content to the Resources section.

5.6.1 Sections of the Wiki

The *teacher2teacher: Peer Coaching for ICT* wiki draws upon many of the practices demonstrated in the ICT peer coaching programmes of the schools involved in the study and which have been described in this chapter. It also presents strategies which aim to overcome the weakness and challenges identified in the schools' coaching programmes. However, while the study was focused on the Victorian government school sector, the content in the wiki takes a broader education view and can be adapted to other systems and made relevant to any educator.

The wiki is made up of four key sections:

- i) Section 1: Understanding ICT Peer Coaching
- ii) Section 2: School Leaders – Planning an ICT Peer Coaching Programme
- iii) Section 3: ICT Peer Coaches – Working with Learners
- iv) Section 4: Resources.

These four sections are described below.

i) Section 1: Understanding ICT Peer Coaching

Section 1 of the *teacher2teacher: Peer Coaching for ICT* wiki is for school leaders and teachers who would like to learn more about ICT peer coaching. It provides a brief overview of professional learning for ICT integration and describes the roles of ICT peer coaches and learners as used throughout the wiki. It explains the ICT peer coaching cycle, including the optional ICT skills/practice session that was one of the findings of the study. This section also highlights the goal-based model approach to ICT peer coaching, where a broad goal is identified that inter-connects the individual coaching cycles. In doing so, it better positions the learning that takes place to support transformational change. This was also drawn from findings from the study.

ii) Section 2: School Leaders – Planning an ICT Peer Coaching Programme

This section of the *teacher2teacher: Peer Coaching for ICT* wiki presents a planning framework that could be used by schools to introduce a school-based ICT peer coaching

programme that is linked to their strategic plans. The planning framework and templates provided take both school leaders and peer coaches through a process with which to develop a ‘coaching ready’ school and includes ongoing support for peer coaches and learners. By providing a comprehensive planning framework, this section of the wiki aims to overcome some of the weaknesses identified in the study such as lack of cohesion between peer coaching plans and school strategic plans and the lack of overall reporting and evaluation of the ICT peer coaching programme.

iii) Section 3: ICT Peer Coaches – Working with Learners

This section provides ICT peer coaches with resources and templates to help them develop an understanding of their role and how to work effectively with their learners through all stages of an ICT peer coaching cycle. It includes the development of the ICT Peer Coaching Portfolio which is jointly developed by peer coach and learner. The Portfolio addresses findings in the study which identified the lack of alignment between the coaching focus and curriculum standards and also the limited understanding of what data could be collected and how it could support learners to reflect on their classroom practice.

iv) Section 4: Resources

All templates and checklists used in Sections 2 and 3 are located in this section as both Word and PDF formats. Links to websites and video resources are also provided. Users of the site are invited to be part of a broader community by utilising the discussion facility of the wiki to explore issues related to ICT peer coaching, share their experiences and seek input from others. They are also encouraged to adapt the various templates included on the wiki to suit their needs or create their own, and share with other users by posting up them on the wiki.



A Think Space icon is included at the end of many pages in Sections 1, 2 and 3. It indicates to the user that questions to support deeper reflection on the content can be found in the Discussion tab on that page and these can be used to facilitate discussion at a school leadership team level or with the whole staff. In doing so, experiences can be

shared and contribute to understanding of how ICT peer coaching can support teachers' professional learning.

5.7 Limitations of this Study

Three schools, two primary schools and one secondary, participated in this study, with one of the primary schools located in a rural setting. Such a small sample makes it difficult to draw broader generalisations about ICT peer coaching programmes in place across Victorian government schools. A more balanced analysis may have been possible with data from two primary and two secondary schools, and with one primary and one secondary being located in rural Victoria. The inclusion of rural schools may have raised issues not found in metropolitan schools.

5.8 Concluding Statement

Information and Communication Technologies (ICT) are a pervasive part of education in the twenty-first century and opportunities for teacher learning continue to emerge as new technologies evolve. Further research is required which examines the pedagogical understanding and strategies used by ICT peer coaches to support learners' integration of ICT in areas such as the integration of software applications which are not yet mainstream in the classroom but with which many students are familiar, such as gaming and social networking tools. The pedagogical strategies that effectively support student learning anywhere, anytime and those that help personalise student learning are also needed. A school-based ICT peer coaching programme can be an approach where teachers explore and investigate together in a culture of collegiality, ongoing professional learning and continuous improvement. It is a strategy that should be an essential component of any school-based professional learning programme.

Interview Topics

Principals – Term 1

- School setting, student/teacher demographics
- Systemic and cluster initiatives and reforms in which the school is involved
- Processes to support Performance and Development Culture
- ICT peer coaching and the school's overall professional learning strategy
- Roles, expectations and requirements of the ICT peer coach
- Identification/selection of peer coaches
- Support for peer coaches at school level
- Monitoring and evaluation of peer coaching process
- Anticipated benefits at the school level, particularly in relation to Performance and Development Culture
- ICT infrastructure and resourcing across the school

Principals – Term 4

- Changes across the school which occurred during the school year, e.g. staffing, programmes
- Any growth in strengthening Performance and Development Culture within the school
- Perceived value of the ICT peer coaching programme to peer coaches, learners, school
- Plan for ICT peer coaching programme in 2008
- Recommendations to other schools about the implementation and value of an ICT peer coaching strategy

Peer coaches – Term 1

- On being an ICT peer coach
- Attraction of the role
- Implementation of role as ICT peer coach
- Challenges of the role
- Critical elements of a successful ICT peer coaching relationship
- Benefits for peer coach, the learner and the school
- Ways in which ICT peer coaching could support a Performance and Development Culture
- Mechanisms for reporting back to principal, other colleagues
- Perceived issues.

Peer coaches – Term 4

- Any major changes that may have impacted on the implementation of role as ICT peer coach
- Challenges of the role
- Critical elements of a successful ICT peer coaching relationship
- Benefits for peer coach, the learner and the school
- Contribution of the programme to the school's Performance and Development Culture
- Recommendations to the school about future ICT peer coaching

- Recommendations to other schools about the implementation and value of an ICT peer coaching strategy

Learners – Term 1

- On being a learner working with an ICT peer coach
- Implementation of role as learner working with an ICT peer coach
- Challenges of the role
- Selection of ICT learning focus
- Critical elements of a successful ICT peer coaching relationship
- Impact on learning (ICT skills and pedagogy)
- Transferability of learning to the classroom
- Benefits for the learner, the peer coach and the school
- Ways in which ICT peer coaching could support a Performance and Development Culture
- Mechanisms for reporting back to principal, other colleagues
- Perceived issues
- Recommendations to other schools about the implementation and value of an ICT peer coaching strategy

Learners – Term 4

- Any major changes that may have impacted on role in the ICT peer coaching programme
- Critical elements of a successful ICT peer coaching relationship
- Benefits for peer coach, the learner and the school
- Contribution of the programme to the school's Performance and Development Culture
- Recommendations to the school about future ICT peer coaching
- Recommendations to other schools about ICT peer coaches strategy

Appendix 2

Pre-Observation Conference/Post-Observation Conference Protocol

School Code: _____ Date: _____

ICT Peer Coach Code: _____ Learner Code: _____

Session Start time: _____ Session End time: _____

1. Location of conference

(Consider seating arrangement, external sounds/noise)

2. Did session start on time? Yes / No. If no, any reason for delay?

3. Interruptions to the session – (duration, description, etc.)

4. **Body language (facial expressions, posture, gesture, inflection, pitch, volume, rate of speech, language choices, breathing, etc)**

ICT Peer Coach

Learner

5. **What preparation, if any, for the peer coaching session is evident through peer coach and learner interaction?**

ICT Peer Coach

Learner

6. **Description of any materials/resources etc., including ICT, used in the session – by whom, purpose, etc.**

7. **General notes:**



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13 December 2006

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Dear Rita

Re: Human Research Ethics Application Approval

The Design and Social Context Human Research Ethics Sub-Committee received your amended ethics application entitled: **"ICT Peer Coaches: Techhno- Pedagogists of the Twenty-First Canturyr developing countries"**

I am pleased to advise that the committee has approved your application as level 2-risk classification.

This now completes the Ethics procedures.

This approval is valid for three (3) years and expires: **December 2009**

You are reminded that an Annual/Final report is required to be submitted by 1st of December each year for the duration of the approval period. This report is available from: URL:
http://www.rmit.edu.au/rd/hrec_apply

Should you have any queries regarding your ethics application please seek advice from the Chair of the sub-committee Assoc. Prof. Heather Fehring on 9925 7840, heather.fehring@rmit.edu.au or contact me on (03) 9925 7877 or email heather.porter@rmit.edu.au

I wish you well in your research.

Yours sincerely

Heather Porter
Secretary
Design and Social Context
Human Research Ethics Sub-Committee
Operational Unit - Bundoora

RMIT HUMAN RESEARCH ETHICS COMMITTEE

Prescribed Consent Form For Persons Participating In Research Projects Involving Interviews, Questionnaires, Focus Groups or Disclosure of Personal Information

**PORTFOLIO OF
SCHOOL/CENTRE
OF**
Design and Social Context

Education

Name of participant:

Project Title:

ICT Peer Coaches: Techno-pedagogues of the Twenty-first Century

Name(s) of investigators:

Rita Ellul

 Phone: **0407 846 692**

(1)

(2)

Phone:

1. I have received a statement explaining the interview/questionnaire involved in this project.
2. I consent to participate in the above project, the particulars of which - including details of the interviews or questionnaires - have been explained to me.
3. I authorise the investigator or his or her assistant to interview me or administer a questionnaire.
4. I give my permission to be audio taped ☐ Yes ☐ No
5. I give my permission for my name or identity to be used ☐ Yes ☐ No
6. I give permission, as principal, for teachers at this school who wish to be involved in the study, to do so ☐ Yes ☐ No ☐ N/A
7. I acknowledge that:
 - (a) Having read the Plain Language Statement, I agree to the general purpose, methods and demands of the study.
 - (b) I have been informed that I am free to withdraw from the project at any time and to withdraw any unprocessed data previously supplied.
 - (c) The project is for the purpose of research and/or teaching. It may not be of direct benefit to me.
 - (d) The privacy of the information I provide will be safeguarded. However should information of a private nature need to be disclosed for moral, clinical or legal reasons, I will be given an opportunity to negotiate the terms of this disclosure.
 - (e) The security of the research data is assured during and after completion of the study. The data collected during the study may be published, and a report of the project outcomes will be provided as a thesis to RMIT and for possible journal publication and conference presentations. Any information which may be used to identify me will not be used unless I have given my permission (see point 5).

Participant's Consent

Name: _____ Date _____
: _____
(Participant)

Name: _____ Date _____
: _____
(Witness to signature)

Where participant is under 18 years of age:

I consent to the participation of _____ in the
above project.

Signature: (1) _____ (2) _____ Date _____
: _____
(Signatures of parents or guardians)

Name: _____ Date _____
: _____
(Witness to signature)

Participants should be given a photocopy of this consent form after it has been signed.

Any complaints about your participation in this project may be directed to the Secretary, RMIT Human Research Ethics Committee, University Secretariat, RMIT, GPO Box 2476V, Melbourne, 3001. The telephone number is (03) 9925 1745.

Details of the complaints procedure are available from:
www.rmit.edu.au/council/hrec



Department of Education & Training

Office of Learning and Teaching

SOS003451

Ms Rita Ellul
92/33 La Trobe Street
MELBOURNE 3000

Rita
Dear Ms Ellul

Thank you for your application of 22 November 2006 in which you request permission to conduct a research study in government schools titled: *ICT Peer Coaches: Techno-Pedagogists of the Twenty-First Century*.

I am pleased to advise that on the basis of the information you have provided your research proposal is approved in principle subject to the conditions detailed below.

1. Should your institution's ethics committee require changes or you decide to make changes, these changes must be submitted to the Department of Education and Training for its consideration before you proceed.
2. You obtain approval for the research to be conducted in each school directly from the principal. Details of your research, copies of this letter of approval and the letter of approval from the relevant ethics committee are to be provided to the principal. The final decision as to whether or not your research can proceed in a school rests with the principal.
3. No student is to participate in this research study unless they are willing to do so and parental permission is received. Sufficient information must be provided to enable parents to make an informed decision and their consent must be obtained in writing.
4. As a matter of courtesy, you should advise the relevant Regional Director of the schools you intend to approach. An outline of your research and a copy of this letter should be provided to the Regional Director.

2 Treasury Place
East Melbourne, Victoria 3002
Telephone: +61 3 9637 2000
DX 210083

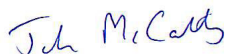
GPO Box 4367
Melbourne, Victoria 3001



5. Any extensions or variations to the research proposal, additional research involving use of the data collected, or publication of the data beyond that normally associated with academic studies will require a further research approval submission.
6. At the conclusion of your study, a copy or summary of the research findings should be forwarded to the Research and Development Branch, Department of Education and Training, Level 2, 33 St Andrews Place, GPO Box 4367, Melbourne, 3001.

I wish you well with your research study. Should you have further enquiries on this matter, please contact Chris Warne, Project Officer, Research on (03) 9637 2272.

Yours sincerely



John McCarthy
Assistant General Manager
Research and Innovation Division

12 / 12 / 2006

enc



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Appendix 6a

Plain Language Statement - Principals

Dear

My name is Rita Ellul. I would like to invite you to take part in a study being undertaken as part of a PhD at RMIT University, in the School of Education, Design & Social Context Portfolio. The title of my research is ICT Peer Coaches: Techno-Pedagogues of the Twenty-First Century.

Ongoing professional learning is essential for teachers to enable them to keep abreast with new and emerging technologies and recognize their potential to impact on student learning. The use of Information and Communication Technologies (ICT) Peer coaches is one strategy being adopted by schools to assist teachers to develop technological skills as well as the pedagogical understandings needed to effectively integrate ICT into their teaching and learning programs.

This study aims to investigate ICT peer coaching programs in government schools in Victoria to examine how such programs support teachers' integration of ICT. It also aims to explore how ICT peer coaching can impact on key systemic initiatives currently in place in Victorian schools, with particular focus on the Performance and Development Culture initiative. Between two and four schools will be involved in the study, involving four participants from each school – the principals, the ICT Peer coach and two learners or coachees.

You are being invited to participate in the study as the principal of a school which has an ICT Peer coaching program in place.

As a participant, you are invited to take part in two interviews, the first in Term 1, the second in Term 4. The interviews will take approximately one hour. The interviews will be tape-recorded to assist me in developing accurate transcripts. However, should you prefer the interview not to be tape-recorded, this will be arranged. The tape-recordings will not be made available to anyone and will be destroyed once the transcripts have been created and checked for accuracy. The transcripts and all other data collected will be destroyed on completion and approval of the thesis by RMIT.

It would also assist me in my research if you could make available any documents which will contribute to my developing an understanding of the school context in which the peer coaching program operates, such as the school's strategic plan, professional learning plan or eLearning/technology plan. Any documentation which outlines the school's participation in major initiatives such as the Leading

Schools Fund or Performance and Development Culture would also be appreciated.

All schools and participants will be assigned code names and will remain anonymous. Any data which could identify you or your school will not be used. The data collected during the study may be published in possible journal articles and conference presentations and a thesis will also be provided to RMIT. However, once again, all participants will remain anonymous. All data collected will remain secure on a password protected computer and be securely stored in a locked filing cabinet. The data will not be made available to anyone to ensure confidentiality.

Participation is also being sought from an ICT peer coach and two of their learners within your school. You are also being requested, as principal, to approve their participation in the study should they agree to take part. The ICT peer coach and their learners would be required for an interview in Terms 1 and 4 of approximately one hour. They would also be required to take part in observation sessions which would take place in Terms 2 and 3 and would focus on their pre- and post-observation conferences as they plan, set goals, debrief and plan further. The researcher's role is that of non-participant observer. Consequently, there should be minimum impact of the teaching and learning program of those involved.

Participation in the study is voluntary and you may withdraw at any time. Any unprocessed data may also be withdrawn and you may access your data at any time. If you are interested in the final report, you are welcome to request the executive summary which I will be happy to forward to you.

If you require further information about the research or your role, please contact me on mobile 0407 846692 or email ellul.rita.t@edumail.vic.gov.au. You could also contact my supervisor, Associate Professor Heather Fehring on 9925 7840 or email heather.fehring@rmit.edu.au.

I look forward to your participation in the study.

Yours sincerely

Rita Ellul

Any complaints about your participation in this project may be directed to the Secretary, RMIT Human Research Ethics Committee, University Secretariat, RMIT, GPO Box 2476V, Melbourne, 3001. The telephone number is (03) 9925 1745.

Details of the complaints procedure are available from:
www.rmit.edu.au/council/hrec



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Appendix 6b

Plain Language Statement – Peer Coaches

Dear

My name is Rita Ellul. I would like to invite you to take part in a study being undertaken as part of a PhD at RMIT University, in the School of Education, Design & Social Context Portfolio. The title of my research is ICT Peer Coaches: Techno-Pedagogues of the Twenty-First Century.

Ongoing professional learning is essential for teachers to enable them to keep abreast with new and emerging technologies and recognize their potential to impact on student learning. The use of Information and Communication Technologies (ICT) Peer coaches is one strategy being adopted by schools to assist teachers to develop technological skills as well as the pedagogical understandings needed to effectively integrate ICT into their teaching and learning programs.

This study aims to investigate ICT peer coaching programs in government schools in Victoria to examine how such programs support teachers' integration of ICT. It also aims to explore how ICT peer coaching can impact on key systemic initiatives currently in place in Victorian schools, with particular focus on the Performance and Development Culture initiative. Between two and four schools will be involved in the study, involving four participants from each school – the principals, the ICT Peer coach and two learners or coachees.

You are being invited to participate in the study as the ICT Peer coach of a school which has an ICT Peer coaching program in place.

As a participant, you are invited to take part in two interviews and a series of observation sessions. The first interview would take place in Term 1, the second in Term 4 and will take approximately one hour. The observation sessions would take place in Terms 2 and 3 and would focus on the pre- and post-observation conferences held with two of your learners or coachees. The interviews and observation sessions will be tape-recorded to assist me in developing accurate transcripts. However, should you prefer the interview not to be tape-recorded, this will be arranged. The tape-recordings will not be made available to anyone and will be destroyed once the transcripts have been created and checked for accuracy. The transcripts and all other data collected will be destroyed on completion and approval of the thesis by RMIT.

It would also assist me in my research if you could make available any documents which will contribute to my developing an understanding of the peer coaching partnership. These might include any resources you develop to support your learners or coachees, for example, planning documents, journals, meeting logs etc.

All schools and participants will be assigned code names and will remain anonymous. Any data which could identify you or your school will not be used. The data collected during the study may be published in possible journal articles and conference presentations. A thesis will also be provided to RMIT. However, once again, all participants will remain anonymous. All data collected will remain secure on a password protected computer and be securely stored in a locked filing cabinet. The data will not be made available to anyone to ensure confidentiality.

Participation in the study is voluntary and you may withdraw at any time. Any unprocessed data may also be withdrawn and you may access your data at any time. If you are interested in the final report, you are welcome to request the executive summary which I will be happy to forward to you.

If you require further information about the research or your role, please contact me on mobile 0407 846692 or email ellul.rita.t@edumail.vic.gov.au. You could also contact my supervisor, Associate Professor Heather Fehring on 9925 7840 or email heather.fehring@rmit.edu.au.

I look forward to your participation in the study.

Yours sincerely

Rita Ellul

Any complaints about your participation in this project may be directed to the Secretary, RMIT Human Research Ethics Committee, University Secretariat, RMIT, GPO Box 2476V, Melbourne, 3001. The telephone number is (03) 9925 1745.

Details of the complaints procedure are available from:
www.rmit.edu.au/council/hrec

Appendix 6c

Plain Language Statement - Learners

Dear

My name is Rita Ellul. I would like to invite you to take part in a study being undertaken as part of a PhD at RMIT University, in the School of Education, Design & Social Context Portfolio. The title of my research is ICT Peer Coaches: Techno-Pedagogues of the Twenty-First Century.

Ongoing professional learning is essential for teachers to enable them to keep abreast with new and emerging technologies and recognize their potential to impact on student learning. The use of Information and Communication Technologies (ICT) Peer coaches is one strategy being adopted by schools to assist teachers to develop technological skills as well as the pedagogical understandings needed to effectively integrate ICT into their teaching and learning programs.

This study aims to investigate ICT peer coaching programs in government schools in Victoria to examine how such programs support teachers' integration of ICT. It also aims to explore how ICT peer coaching can impact on key systemic initiatives currently in place in Victorian schools, with particular focus on the Performance and Development Culture initiative. Between two and four schools will be involved in the study, involving four participants from each school – the principals, the ICT Peer coach and two learners or coachees.

You are being invited to participate in the study as a learner or coachee working with an ICT Peer coach of a school which has an ICT Peer coaching program in place.

As a participant, you are invited to take part in two interviews and a series of observation sessions. The first interview would take place in Term 1, the second in Term 4 and will take approximately one hour. The observation sessions would take place in Terms 2 and 3 and would focus on the pre- and post-observation conference session with your ICT Peer coach. The interviews and observation sessions will be tape-recorded to assist me in developing accurate transcripts. However, should you prefer the interview not to be tape-recorded, this will be arranged. The tape-recordings will not be made available to anyone and will be destroyed once the transcripts have been created and checked for accuracy. The transcripts and all other data collected will be destroyed on completion and approval of the thesis by RMIT.

It would also assist me in my research if you could make available any documents which will contribute to my developing an understanding of the peer coaching partnership you have developed. This might include any resources you develop to support or document your learning, for example, planning documents, journals, meeting logs etc.

All schools and participants will be assigned code names and will remain anonymous. Any data which could identify you or your school will not be used. The data collected during the study may be published in possible journal articles and conference presentations. A thesis will also be provided to RMIT. However, once again, all participants will remain anonymous. All data collected will remain secure on a password protected computer and be securely stored in a locked filing cabinet. The data will not be made available to anyone to ensure confidentiality.

Participation in the study is voluntary and you may withdraw at any time. Any unprocessed data may also be withdrawn and you may access your data at any time. If you are interested in the final report, you are welcome to request the executive summary which I will be happy to forward to you.

If you require further information about the research or your role, please contact me on mobile 0407 846692 or email ellul.rita.t@edumail.vic.gov.au. You could also contact my supervisor, Associate Professor Heather Fehring on 9925 7840 or email heather.fehring@rmit.edu.au.

I look forward to your participation in the study.

Yours sincerely

Rita Ellul

Any complaints about your participation in this project may be directed to the Secretary, RMIT Human Research Ethics Committee, University Secretariat, RMIT, GPO Box 2476V, Melbourne, 3001. The telephone number is (03) 9925 1745.

Details of the complaints procedure are available from:
www.rmit.edu.au/council/hrec

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